

North Dakota Department of Transportation

Thomas K. Sorel
Director

Doug Burgum
Governor

November 9, 2017

ADDENDUM 1 – JOB 43

TO: All prospective bidders on project IM-8-029(170)033, Job No. 43 scheduled for the November 17, 2017 bid opening.

The following plan and request for proposal revisions shall be made:

Plan Revisions:

See attached summary from Chad Petersen, KLJ dated November 8, 2017 for an explanation.

Request for Proposal Revisions:

Remove and replace pages 8 thru 14 of 16 of the Proposal pages located at the beginning of the Request for Proposal, with the enclosed pages revised 11/9/2017.

The following changes were made to the Bid Items:

Spec No.	Code No.	Description	Description of Change
612	0116	REINFORCING STEEL-GRADE 60-EPOXY COATED	Decreased from 68,764 to 68,747 LBS
624	3005	CONNECTION PLATE MODIFICATION	Added Bid Item at 2 EA
714	9640	RELAY PIPE-ALL TYPES & SIZES	Added Bid Item at 1,726 LF
714	9659	REMOVE AND RELAY PIPE-ALL TYPES & SIZES	Decreased from 1,960 to 234 LF
900	1000	TEMPORARY STREAM DIVERSION	Added Bid Item at 1 EA

Add Special Provision SP 584(14) TEMPORARY WATER DIVERSION.

This addendum is to be incorporated into the bidder's proposal for this project. AASHTOWare Project Bids files should be updated by downloading the addendum file from the Bid Express on-line bidding exchange at <http://www.bidx.com/> and load it into the AASHTOWare Project Bids program.

PHILLIP MURDOFF – CONSTRUCTION SERVICES ENGINEER

80:jwj

Enclosure



1010 4th Avenue Southwest
Valley City, ND 58072-3907
701 845 4980
KLJENG.COM

November 8, 2017

ADDENDUM 1 JOB 43

TO: All prospective bidders and suppliers on Project IM-8-029(170)033 scheduled for the November 17, 2017 bid opening.

Revisions for IM-8-029(170)033:

Remove & replace plan sheet:

- Section 2 Sheets 1-2 Revised 11/03/2017
- Section 6 Sheets 2-6 Revised 11/08/2017
- Section 8 Sheet 1 Revised 11/07/2017
- Section 60 Sheets 30-34 Revised 11/07/2017
- Section 170 Sheets 27, 31 Revised 09/21/2017

with the enclosed revised sheets.

Add plan sheet:

- Section 170 Sheets 23A Added 09/21/2017

with the enclosed revised sheet.

Add Standard Drawing:

- D-752-3 Added 11/03/2017

with the enclosed sheet.

Add Special Provision:

- 584(14) Temporary Water Diversion Added 11/03/2017

with the enclosed sheets.

SECTION 2

SHEET 1:

- Revised to add SP 584(14) Temporary Water Diversion.

SHEET 2:

- Added Standard Drawing D-752-3 Standard Woven Wire Fence to the list of Standard Drawings.

SECTION 6

SHEET 2:

- Note 302-P04: Plan Note 302-P04 has been revised.

SHEET 3:

- Note 704-P02: Phase 3 Traffic Control has been revised to restrict head to head traffic prior to April 1, 2018.

SHEET 4:



- Note 704-P05: Plan Note 704-P05 Tubular Markers has been revised to indicate the number of weighted tubular markers available for resetting and the amount required.
- Note 704-P08: Plan Note 704-P08 Flexible Delineators has been removed.
- Note 704-P09: Plan Note 704-P09 has been renumbered to 704-P08. The note has been revised to allow grinding on new pavement surfaces for obliteration of existing pavement markings.

SHEET 5:

- Note 714-P04: Plan Note 714-P04 has been added to provide a separate bid item for relaying the PVC Pipe.

SHEET 6:

- Note 764-P01: Plan Note 764 P01 is now split between pages 5 & 6.

SECTION 8

SHEET 1:

- Revised Quantities:

Spec	Code	Description	Unit	Previous Quantity	Addendum 1 Quantity
612	0116	REINFORCING STEEL-GRADE 60-EPOXY COATED	LBS	68,764	68,747
624	3005	CONNECTION PLATE MODIFICATION	EA	n/a	2
714	9640	RELAY PIPE-ALL TYPES & SIZES	LF	n/a	1,726
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES	LF	1,960	234
900	1000	TEMPORARY STREAM DIVERSION	EA	n/a	1

SECTION 60

SHEET 30-34:

- Revised bid item quantities so “714-9640 RELAY PIPE-ALL TYPES & SIZES” represents the PVC pipe remove and relay quantities.

SECTION 170

SHEET 23A:

- Sheet added for connection plate modification details.

SHEET 27:

- Updated 612-0116 Reinforcing Steel - Grade 60 - Epoxy Coated quantity.

SHEET 31:

- Updated Reinforcing Steel (Epoxy) Quantity.



SPECIAL PROVISION

- Added SP 584(14) Temporary Water Diversion.

STANDARD DRAWING

- Added Standard Drawing D-752-3 Standard Woven Wire Fence.

Sincerely,
KLJ

Chad Petersen

Project Engineer

Enclosure(s): Revised Plan Sheet
-Project #: IM-8-029(170)033
c: Amy Beise, NDDOT

BID ITEMS

Project: IM-8-029(170)033 (PCN-21496)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$\$	000	\$\$\$\$\$	00
049	602	1135	BRIDGE APPROACH SLAB-REMOVE & REPLACE	SY	364.400				
050	602	1250	PENETRATING WATER REPELLENT TREATMENT	SY	783.				
051	612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	9,392.				
052	612	0115	REINFORCING STEEL-GRADE 60	LBS	1,204.				
053	612	0116	REINFORCING STEEL-GRADE 60-EPOXY COATED	LBS	68,747.				
054	624	3002	DOUBLE BOX BEAM RAIL RETROFIT - E-RAIL	LF	1,441.700				
055	624	3005	CONNECTION PLATE MODIFICATION	EA	2.				
056	702	0100	MOBILIZATION	L SUM	1.				
057	704	0100	FLAGGING	MHR	3,250.				
058	704	1000	TRAFFIC CONTROL SIGNS	UNIT	14,096.				
059	704	1045	ATTENUATION DEVICE-TYPE B-75	EA	2.				
060	704	1052	TYPE III BARRICADE	EA	63.				
061	704	1060	DELINEATOR DRUMS	EA	514.				
062	704	1067	TUBULAR MARKERS	EA	1,649.				
063	704	1070	DELINEATOR	EA	460.				
064	704	1072	FLEXIBLE DELINEATORS	EA	864.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$\$	000	\$\$\$\$\$	00
065	704	1080	STACKABLE VERTICAL PANELS	EA	166.				
066	704	1081	VERTICAL PANELS-BACK TO BACK	EA	12.				
067	704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	2.				
068	704	1088	SEQUENCING ARROW PANEL-TYPE C-CROSSOVER	EA	2.				
069	704	1090	FLASHING BEACON	EA	2.				
070	704	1500	OBLITERATION OF PAVEMENT MARKING	SF	6,965.				
071	704	3510	PRECAST CONCRETE MED BARRIER-STATE FURNISHED	EA	79.				
072	706	0400	FIELD OFFICE	EA	1.				
073	706	0500	AGGREGATE LABORATORY	EA	1.				
074	706	0600	CONTRACTOR'S LABORATORY	EA	1.				
075	709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	17,904.				
076	709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	4,298.				
077	709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	112.				
078	714	0615	PIPE CONC REINF 24IN CL III	LF	194.				
079	714	0820	PIPE CONC REINF 30IN CL III	LF	56.				
080	714	0905	PIPE CONC REINF 36IN CL III	LF	80.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
081	714	1005	PIPE CONC REINF 42IN CL III	LF	6.				
082	714	3020	END SECT-CONC REINF 24IN	EA	18.				
083	714	3023	END SECT-TRAVERSABLE REINF. CONC.24IN	EA	11.				
084	714	3030	END SECT-CONC REINF 30IN	EA	4.				
085	714	3033	END SECT-TRAVERSABLE REINF. CONC.30IN	EA	3.				
086	714	3035	END SECT-CONC REINF 36IN	EA	13.				
087	714	3036	END SECT-TRAVERSABLE REINF. CONC.36IN	EA	1.				
088	714	3040	END SECT-CONC REINF 42IN	EA	1.				
089	714	3045	END SECT-CONC REINF 48IN	EA	1.				
090	714	4122	PIPE CONDUIT 42IN-APPROACH	LF	144.				
091	714	7030	PIPE PVC 12IN	LF	311.				
092	714	9640	RELAY PIPE-ALL TYPES & SIZES	LF	1,726.				
093	714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES	LF	234.				
094	714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	2.				
095	714	9900	INSTALL CONCRETE PIPE TIES	SET	298.				
096	714	9917	FLAP GATE 42IN	EA	3.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
097	720	0125	ALIGNMENT MONUMENTS	EA	1.				
098	720	0135	IRON PIN REFERENCE MONUMENTS	EA	11.				
099	722	3485	CASTING MOUNTABLE CURB-TYPE A	EA	12.				
100	722	4581	RELAY PRECAST CONCRETE MEDIAN DRAIN	EA	1.				
101	748	0141	CURB & GUTTER-TYPE 1 SPECIAL	LF	60.				
102	748	0150	MOUNTABLE CURB & GUTTER-TYPE 1 SEC A	LF	480.				
103	752	0700	FENCE WOVEN WIRE	LF	9,139.				
104	752	0993	FENCE TERMINAL	EA	7.				
105	752	3120	CORNER ASSEMBLY WOVEN WIRE	EA	10.				
106	752	4120	DOUBLE BRACE ASSEMBLY WOVEN WIRE	EA	2.				
107	754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	50.				
108	754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	59.				
109	754	0195	DIAMOND GRADE DELINEATORS-TYPE A	EA	141.				
110	754	0196	DIAMOND GRADE DELINEATORS-TYPE B	EA	64.				
111	754	0198	DIAMOND GRADE DELINEATORS-TYPE D	EA	18.				
112	754	0199	DIAMOND GRADE DELINEATORS-TYPE E	EA	2.				

BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$\$	000	\$\$\$\$\$	00
113	754	0210	GALV STEEL POST-STANDARD PIPE	LF	139.				
114	754	0214	GALV STEEL POSTS-W-SHAPE POSTS(TWO OR MORE)	LF	692.				
115	754	0534	PANEL FOR SIGNS-TYPE IV REFLECTIVE SHEETING	SF	1,116.				
116	754	0556	INTERSTATE MILE POSTS-TYPE B	EA	11.				
117	754	0801	OBJECT MARKERS - TYPE I	EA	3.				
118	754	0805	OBJECT MARKERS - CULVERTS	EA	69.				
119	754	1100	CLASS AE CONCRETE-SIGN FOUNDATIONS	CY	3.100				
120	754	1104	REMOVE SIGN FOUNDATION	EA	23.				
121	754	1220	REMOVE OVERHEAD SIGN STR BRIDGE MOUNTED	EA	1.				
122	760	0001	RUMBLE STRIPS - CONCRETE SHOULDER	MILE	20.840				
123	762	0103	PVMT MK PAINTED-MESSAGE	SF	82.500				
124	762	0200	RAISED PAVEMENT MARKERS	EA	28,092.				
125	762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	76,271.				
126	762	1104	PVMT MK PAINTED 4IN LINE	LF	225,111.				
127	762	1108	PVMT MK PAINTED 8IN LINE	LF	2,518.				
128	762	1124	PVMT MK PAINTED 24IN LINE	LF	130.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
129	764	0131	W-BEAM GUARDRAIL	LF	1,164.				
130	764	0145	W-BEAM GUARDRAIL END TERMINAL	EA	24.				
131	764	0151	REMOVE W-BEAM GUARDRAIL & POSTS	LF	1,908.				
132	764	1050	RESET W-BEAM GUARDRAIL	LF	800.				
133	764	1990	REMOVE CONCRETE SAFETY SHAPE TRANSITION	EA	4.				
134	764	2081	REMOVE END TREATMENT & TRANSITION	EA	20.				
135	900	1000	TEMPORARY STREAM DIVERSION	EA	1.				
136	990	0400	PIPE CLEANOUT	EA	12.				
			SUBTOTAL						
ALTERNATE A									
137	216	0100	WATER	M GAL	609.				
138	302	0100	SALVAGED BASE COURSE	TON	30,453.				
139	550	0105	6IN NON-REINF CONCRETE PAVEMENT CL AE	SY	42,786.				
			SUBTOTAL ALTERNATE A						

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
ALTERNATE B									
140	216	0100	WATER	M GAL	785.				
141	302	0100	SALVAGED BASE COURSE	TON	39,244.				
142	401	0050	TACK COAT	GAL	2,220.				
143	401	0060	PRIME COAT	GAL	12,034.				
144	430	0040	SUPERPAVE FAA 40	TON	9,877.				
145	430	1000	CORED SAMPLE	EA	109.				
146	430	5803	PG 58S-28 ASPHALT CEMENT	TON	594.				
147	706	0550	BITUMINOUS LABORATORY	EA	1.				
			SUBTOTAL ALTERNATE B						
			SUBTOTAL + SUBTOTAL ALTERNATE A						
			SUBTOTAL + SUBTOTAL ALTERNATE B						

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION (SP)

TEMPORARY WATER DIVERSION

Project 8-0029(170)033 - PCN 21496

DESCRIPTION

Diversions are used to temporarily reroute surface water or restrict flows to allow for the construction activities to take place.

This work consists of constructing and maintaining a temporary diversion to allow for the installation of extension of a 10 foot by 7 foot triple box culvert at Station 2007+77.

This work is in conjunction with the requirements of SP 03(14) "Temporary Erosion and Sediment Best Management Practices," and the Construction General Permits.

MATERIALS

Item	Section
Geosynthetic Type R1	858

Where R1 material is specified according to the design, alternative materials may be used if the alternative material has a lower permittivity and higher strength than Geosynthetic Type R1.

CONSTRUCTION REQUIREMENTS

A. General.

Obtain and modify all appropriate permits before work commences on the diversions.

Design, construct, operate, and remove temporary diversions to prevent soil/water interaction.

Strip and stockpile topsoil from areas where the temporary diversion will be constructed and installed. Do not place stockpiles between the diversion and the work area. Stabilize stockpiles placed within 200 feet of the diversion and work area within 24 hours of construction of the stockpile

Isolate work area using dikes or other methods even when no water is present. Construct the diversion before beginning work on the structure.

1. Plan Submittal.

Submit a design for the diversion that includes work drawings and include the submittals with the Storm Water Pollution Prevention Plan (SWPPP).

2. Design.

Design the temporary diversion to withstand the 2 year event shown in Appendix A and meet the following:

- If flow occurs while the diversion is in place, a portion of the flow must be passed as water accumulates in order to maintain flows downstream;
- Maintain downstream water quality equal to the upstream water quality; and
- Include provisions that will prevent the accumulation of job site sediment in the diversion.

B. Diversion Components.

Construction of the diversion may entail using the components listed below or other methods approved by the Engineer.

Install diversion measures before beginning work on the structure.

1. Dike.

Construct upstream and downstream dikes to isolate the work area. Construct dikes using one or more of the following materials:

- Sandbags;
- Sheet piles;
- Soil wrapped with Geosynthetic Type R1;
- Water filled bladder;
- Impermeable containers; or
- Prefabricated dams.

2. Work Area Dewatering.

Operate the dewatering system within the work area to prevent any change in water quality of the water body. Before beginning dewatering of the work area, provide an inlet control system that limits sediment from entering the system and provide a stabilized discharge from the dewatering system.

Inlet control systems may include:

- Surface skimmers;
- Aggregate filled perforated containers; or
- Inlet filter sock.

Stabilized discharges may include:

- Dewatering basin;
- Sediment bag; or
- Filtering through vegetation.

Design and operate the discharge so that there is no visible sediment plume present in the water body and the discharge causes no additional erosion or sediment.

Do not discharge water directly to the water body or the diversion.

3. Culvert Installation.

Provide positive drainage from the upstream to downstream ends of the culvert and install energy dissipation measures at culvert outlets.

a. Culvert Through Existing Structure.

Install pipes through the existing structure.

Construction may include using the following steps:

- (1) Install a temporary culvert through the structure.
- (2) Anchor and seal the installed pipes at the upstream impervious dike.
- (3) Extend the installed pipes through the downstream impervious dike.

b. Culvert Diversion.

Install a temporary pipe crossing under the roadway near the existing structure.

4. Channels.

Construct channels with side slopes that are 2:1 or flatter with a channel bottom of sufficient width. Cover disturbed slopes and channel bottom with Geosynthetic Material, Type R1.

Overlap splices and joints placed at least 36 inches.

Secure the liner using methods that will ensure that the liner will not be disturbed by the design flows shown in Appendix A. Potential methods of securing the liner may include:

- Staples;
- Pins;
- Sandbags; or
- Riprap.

Patch damaged areas of channel liner. Place a patch that overlaps the damaged area by 36 inches on all sides. Secure the patch with pins or staples.

Install fiber rolls or silt fence along the top of the channel to prevent any sediment or debris from entering the channel.

Connect the downstream end of the channel before connecting the upstream end of the channel to the existing water body.

5. Diversion Pumping.

Place an inlet control system at pump inlets. An inlet control systems may include:

- Surface skimmers;
- Aggregate filled perforated containers; or
- Inlet filter sock.

Route the discharge hose through the structure or work area.

Design and operate the discharge so that no visible sediment plume is present in the water body and so the discharge causes no additional erosion of the water body.

C. Diversion Removal.

Do not begin removal of the temporary diversion until the construction activities relating to the structure are complete and all permanent erosion and sediment control devices are in place. Remove the diversion in a manner that prevents soil/water interaction.

Remove all materials used to construct the diversion.

Restore the area affected by the temporary diversion to the same condition that existed before construction.

1. Downstream Dike.

Remove the downstream dike first. Stabilize the areas above the waterline where the downstream dike was located.

2. Upstream Dike.

Remove the upstream dike to restore normal flow through the structure before removal of any devices used to create the diversion.

Stabilize the areas above the waterline where the upstream dike was located.

a. Suspended Pipe.

Remove the suspended pipe at the same time as removing the upstream dike.

b. Channel and Pipe Diversion.

Remove the upstream dike and construct a dike to prevent water from entering the channel or pipe diversion.

3. Pipe.

Remove pipe after the stream has been restored to normal flow.

4. Channel.

Backfill temporary channels outside of the roadway embankment as specified in Section 203.04 E.3, "Compaction Control, Type B". When backfilling roadway embankment areas, benching of slopes will be required as specified in Section 203.04 E.1, "General".

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Pay Item	Pay Unit
Temporary Stream Diversion	Each

The Engineer will pay for the stream diversion according to the Table 1.

Work Completed	Percent of Contract Unit Price
Stream Diversion Installed	75
Restoration of the Diversion	25

Include the cost for installation, maintenance, and removal of erosion control devices used in conjunction with the stream diversion in the contract unit price for "Temporary Stream Diversion". Section 4, "Basis of Payment" in SP 03(14) does not apply to erosion control devices used in conjunction with stream diversions.

Such payment is full compensation for designing, furnishing all equipment, material, labor, and other incidentals to complete the work as specified.

Appendix A

2 Year 24 Hour Flow			
Structure Number	Station	Existing Structure Type	Min Discharge (cfs)
29+038.039	2007+77	Triple Box Culvert	162.5

TABLE OF CONTENTS

Revised 11/3/2017	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	IM-8-029(170)033	2	1

PLAN SECTIONS

SPECIAL PROVISIONS

Section	Page(s)	Description
1	1	Title Sheet
2	1 - 2	Table of Contents & List of Standard Drawings
4	1	Scope of Work
6	1 - 6	Notes
6	7	Environmental Notes
8	1	Quantities
10	1 - 4	Basis of Estimate
11	1 - 2	Earthwork Summary
11	3 - 10	Average End Area Tables
11	11	Mass Haul Diagram
20	1 - 2	Superelevation Detail
20	3	Milling & Paving Transition Detail
20	4	Median Approach Detail
20	5	PCC Pavement & Joint Details
20	6	Mainline Centerline Pipe Extension Detail
20	7	Erosion Control at Culvert Flared End Sections
20	8	Median Drain Detail
20	9	Median Block Detail
20	10	Riprap Detail
20	11	South Median Crossover Paving Detail
20	12	Subcut Detail
20	13	Speed Measurement Pavement Markings
30	1 - 7	Typical Sections
40	1 - 25	Removals
50	1	Hydraulic Data
51	1 - 3	Allowable Pipe List
60	1 - 34	Plan & Profile
75	1 - 20	Wetland Impacts
76	1 - 15	Temporary Erosion Control
77	1 - 15	Permanent Erosion Control
80	1 - 12	Layouts
81	1 - 8	Survey Coordinate and Curve Data
82	1 - 16	Survey Data Layouts
90	1 - 7	Paving Layouts
100	1 - 35	Work Zone Traffic Control
110	1 - 32	Signing
130	1 - 9	Guardrail
170	1 - 34	Bridges and Box Culverts
200	1 - 289	Cross Sections - Interstate 29
200	290 - 376	Cross Sections - Ramp Connections

Number	Description
SP 003(14)	Temporary Erosion and Sediment Best Management Practices
SP 004(14)	Federal Migratory Bird Treaty Act
SP 5171(14)	Permits and Environmental Considerations
SP 584(14)	Temporary Water Diversion

TABLE OF CONTENTS
LIST OF STANDARD DRAWINGS

Revised 11/3/2017	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	IM-8-029(170)033	2	2

Number	Description
D-101-1, 2,3	NDDOT Abbreviations
D-101-10	NDDOT Utility Company and Organization Abbreviations
D-101-20, 21	Line Styles
D-101-30, 31,32	Symbols
D-255-1	Bridge Approach Slab Drainage Detail
D-255-2	Erosion And Siltation Control - Erosion Control Blanket Installation
D-260-1	Erosion And Siltation Controls - Silt Fence
D-261-1	Erosion Control - Fiber Roll Placement Details
D-550-2	Longitudinal Joint Details
D-550-5	Transverse Construction Joint
D-704-1	Attenuation Device
D-704-5	Contractor Sign Detail
D-704-7	Breakaway Systems For Construction Zone Signs - Perforated Tube
D-704-8	Breakaway Systems For Construction Zone Signs - U-Channel Post
D-704-9	Construction Sign Details - Terminal And Guide Signs
D-704-10	Construction Sign Details - Regulatory Signs
D-704-11	Construction Sign Details - Warning Signs
D-704-12	Shoulder Closure Tapers
D-704-13	Barricade And Channelizing Device Details
D-704-14	Construction Sign Punching And Mounting Details
D-704-15	Road Closure Layouts
D-704-17	Sign Layout For One Lane Closure Two Lane Roadway
D-704-21	Detour And Roadway Diversion Sign Layouts
D-704-22	Construction Truck And Temporary Detour Layouts
D-704-26	Miscellaneous Sign Layouts
D-704-27	Traffic Control Plan For Moving Operations
D-704-35	Sign Layout For One Lane Closure - Interstate System
D-704-38, 39	Traffic Control System-Median Crossover (800 Ft Transition)-55 Mph Speed Limit Or Greater
D-704-45	Construction Signing Median Crossover
D-704-50	Portable Sign Support Assembly
D-704-51	Portable Precast Concrete Median Barrier (Temporary Usage)
D-704-56	Mobile Operation - Grinding Shoulder Rumble Strips
D-706-1	Bituminous Laboratory
D-708-6	Erosion And Siltation Controls - Median Or Ditch Inlet Protection
D-714-1	Reinforced Concrete Pipe Culverts And End Sections (Round Pipe)
D-714-22	Concrete Pipe Or Precast Concrete Box Culvert Ties
D-714-25	Transverse Mainline Pipe Installation Detail for Pipes More Than 4 Feet Below Top of the Proposed Subgrade
D-714-25M	Transverse Mainline Pipe Installation Detail for Multiple Pipes More Than 4 Feet Below the Top of Subgrade
D-714-26	Transverse Mainline Pipe Installation Detail for Pipes 4 Feet or Less Below Top of the Proposed Subgrade
D-714-26M	Transverse Mainline Pipe Installation Detail for Multiple Pipes 4 Feet or Less Below Top of Subgrade
D-714-27M	Pipe Installation Detail for Multiple Longitudinal Mainline Pipe or Pipe Not Under Roadway

Number	Description
D-720-1	Standard Monuments And Right Of Way Markers
D-722-3	Inlet - Mountable Curb
D-722-7	Precast Concrete Median Drain
D-748-1	Curb & Gutter And Valley Gutter
D-752-3	Standard Woven Wire Fence
D-754-1	Pipe Or W-Shape Assembly Details
D-754-2	Breakaway Coupler System For Standard Pipe - Stub Post
D-754-3	Breakaway System for Standard Pipe - Stub Post
D-754-4	Multi-Directional Breakaway System for Standard Pipe - Stub Post
D-754-5	Foundation Data For Steel Supports
D-754-6	Hinge Plate, Fuse Plate, And Foundation Details For Standard Pipe
D-754-7	Pipe Support And Sign Mounting Details
D-754-9	Letter And Arrow Details For Variable Length Signs
D-754-12	Breakaway Coupler System - Structural Details For W-Shape Supports
D-754-13	Breakaway System Structural Details For W-Shape Supports
D-754-14	Wind Beams And Anchor Plates For W-Shape Supports
D-754-20	(Expressway-Freeway Use) Mile Posts
D-754-21	Reflectorized Delineators
D-754-22A	Typical Interchange Delineation
D-754-22B	Typical Rest Area Delineation
D-754-23	Perforated Tube Assembly Details
D-754-24, 25	Mounting Details Perforated Tube
D-754-24A	Breakaway Coupler System For Perforated Tubes
D-754-32	Sign Punching, Stringer And Support Location Details Regulatory, Warning, And Guide Signs
D-754-49	Sign Punching, Stringer And Support Location Details For Variable Length Signs
D-754-83	Object Markers - Culverts
D-760-1	Rumble Strips Interstate Highways
D-762-2	Interstate Pavement Marking 4 Lane Divided Highway
D-762-4	Pavement Marking
D-762-11	Short-Term Pavement Marking
D-764-1	W-Beam Guardrail General Details
D-764-5	Sequential Kinking Terminal
D-764-6	Flared Energy Absorbing Terminal
D-764-10	Thrie Beam Transition To Double Box Beam Retrofit
D-764-38	MGS Flared Energy Absorbing Terminal - Wood Post
D-764-40	MGS W-Beam Guardrail General Details
D-764-48	Typical Grading at Bridge Ends with MGS W-Beam Guardrail
D-764-50	MASH SoftStop End Terminal - Steel Post
D-764-51	MASH Sequential Kinking Terminal - Wood Post
D-764-60	MGS W-Beam Transition with Approach Curb to Concrete Single Slope or Jersey Barrier
D-764-61	Single Slope to Thrie Beam Connector Plate Details
D-900-1	Bridge Bench Marks

NOTES

Revised 11/08/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	IM-8-029(170)033	6	2

- Christine Interchange
- Walcott Interchange
- Colfax Interchange

Clear and strip the storage site of topsoil prior to placement of the excess excavation. Blend the excess excavation into the existing terrain creating a traversable surface as approved by the Engineer in the field. Do not place material in wetlands or change existing drainage patterns. Restore topsoil, seed and mulch the stockpile upon approval of the grading by the Engineer in the field. Include all costs for clearing and grubbing, hauling, placing and grading of excess excavation and restoration of the stockpile site in the price bid for "Reshaping Roadway". Topsoil stripping and seeding quantities will be paid for separately at unit prices bid.

- 251-P01 FERTILIZER: After placing topsoil, but prior to seeding, place fertilizer that meets the requirements of Section 251.03 G, "Fertilizer". Do not place fertilizer in wetlands. Include all costs associated with the placement of fertilizer in the price bid for "Seeding Class II".
- 253-P01 HYDRAULIC MULCH: Delete section 253.04 B.2 of the Standard Specifications in its entirety.
- 261-P01 PERMANENT FIBER ROLLS: If fiber rolls are to remain on the project, use fiber rolls that are composed of netting that meets either of the following:
- Plastic or natural fiber photodegradable netting that has a life expectancy between 12 to 24 months. If the photodegradable netting is plastic, the netting color must be either clear or green. Black plastic netting will not be allowed.
- 100 percent biodegradable jute netting that has a life expectancy between 6 to 12 months.
- 302-P01 SALVAGED BASE COURSE: Surface tolerance for the salvaged base course will be in accordance with 302.04 C.2, Surface Tolerance Type C, for all areas beneath the 8.5" Non-Reinf Concrete Pavement CL AE – Doweled (i.e. mainline pavement, inside shoulder, and ramp gore area). Surface tolerance for the salvaged base course will be in accordance with 302.04 C.1, Surface Tolerance Type B, for the 8' outside shoulder and ramp areas. Reincorporate excess material removed from high points of the base course by the trimming operation into the base course.
- 302-P02 SALVAGED BASE COURSE FOR SUBCUT REPAIRS: Aggregate meeting the requirement of Class 3 or Class 5 specified in Section 816.02, "Miscellaneous Aggregates" may be used if no salvage based material is available at the time subcuts are filled. Aggregate used in subcut repairs is subject to the requirements of 302.04 B. Aggregate used in subcut repairs will be paid for at the contract unit price for "Salvaged Base Course" regardless of the class of material used.
- 302-P03 SALVAGED BASE COURSE: Incorporate all salvaged concrete and HBP material into the salvaged base course. Utilize recycled HBP or virgin aggregate for any additional material required for the salvaged base course.
- 302-P04 HAULING: The finished aggregate shoulder of southbound I-29 can't be used as a haul route. Do not drive on the base course and/or geosynthetic material while placing concrete, except when the haul vehicle is dumping. When dumping, the haul vehicle is allowed to drive on the base course in the immediate vicinity of where the load is dumped. Re-establish

subgrade surface tolerance per contract requirements prior to placement of the salvaged base course.

- 401-P01 TRIMMING AND PRIME: Prime shoulders within one mile or within 48 hours of the trimming operations unless HBP paving is to take place within 24 hours of trimming.
- 430-P01 HMA DENSITY CONTROL: Compact HMA paving in accordance with Section 430.04 I.3. If Alternative B is selected 'Concrete Median Shoulder W/ 8' Asphalt Outside Shoulder', the asphalt shoulder will be compacted in accordance with Section 430.04 I.2.
- 430-P02 MAINTENANCE OF TRAVELED ROADWAY USING HOT MIX ASPHALT: The contractor will be fully responsible for monitoring the condition of the traveled roadway, crossovers and ramp connections within the limits of the project.
- Patch with an approved mix, in a reasonable time frame, any areas that have subsided more than one inch from the adjacent pavement, any rutting, sponginess and/or breakups as directed by the engineer. Compact HMA in accordance with Section 430.04 I.3 of the Standard Specifications. Include all cost of equipment, labor, and materials, including asphalt cement in the unit price bid for "Patching". Provide a traffic control plan that minimizes disruption to traffic. Necessary traffic control devices and flagging will be paid for under the normal contract bid item. Additionally, the contractor will be required to perform an initial inspection of the roadway, used by the traveling public before construction begins, and make all repairs in accordance with the above requirements or as directed by the Engineer. A quantity of 500 Tons of "Patching" has been provided for this purpose.
- 550-P01 CONCRETE PAVEMENT: The development of a maturity curve specified in Section 550.04 B, "Mix Design" will not be required.
- 550-P02 CONCRETE PAVEMENT: The Department will waive the requirement to place the reinforcing steel, tie bars and dowel bar assemblies a minimum of 2,000 feet ahead of the paving operation as stated in Sections 550.04 E.1 and 550.04 G.2 and allow the use of the roadway as a haul road at the Contractors request, provided the following conditions are met:
- Repair all damaged areas
 - Provide an additional trimmer in advance of the paving operation.
 - Construct the finished surface to within 0.10 feet of the proposed elevation with the first pass of trimming equipment.
 - Construct the finished surface to the specified surface tolerance prior to the placement of reinforcing steel, tie bars and dowel bar assemblies.
 - Place the reinforcing steel and tie bars on approved supports securely, properly and accurately in advancing of the paving operation.
- 704-100 TRAFFIC CONTROL SUPERVISOR: Provide a Traffic Control Supervisor.
- 704-200 PRECAST CONCRETE MEDIAN BARRIERS – STATE FURNISHED: Obtain 79 barriers from the rest area located at Sta 2160+00 Lt. After project completion return barriers to the abandoned rest area located at Sta 2160+00 Lt.
- Some 4 inch x 4 inch boards are available at the return location. Provide any additional 4 inch x 4 inch boards necessary to stack barriers. The boards will become property of the Department.

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NOTES

Revised	11/08/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	IM-8-029(170)033	6	3

Include the cost for boards in the contract unit price for "Precast Concrete Median Barrier - State Furnished".

704-300 FLASHING BEACON: Provide solar powered flashing beacons that meet the requirements of the MUTCD and ITE. Provide beacons that are visible for a distance of 0.25 miles (1,320 feet) and are capable of operating for 20 days without a solar charge.

Include all costs for materials, equipment, labor, and incidentals in the contract unit price for "Flashing Beacon".

704-301 SEQUENCING ARROW PANEL – TYPE C – CROSSOVER: Provide solar powered arrow panels that meet the requirements of the MUTCD and ITE and that are capable of operating for 20 days without a solar charge.

Include all costs for materials, equipment, labor, and incidentals in the contract unit price for "Sequencing Arrow Panel – Type C – Crossover".

704-P01 TRAFFIC CONTROL DEVICES: The traffic control devices list for each phase has been developed using traffic control signing layouts (shown in Section 100 of the plans) and Standard Drawings as listed below:

- | | |
|------------------------------|---|
| D-704-01: | Attenuation Device |
| D-704-05, 7, 8, 9, 10, 11: | Are applicable. |
| D-704-12, 13, 14, 15, 17,21: | Are applicable. |
| D-704-22: | Type K and L for construction trucks hauling material. |
| D-704-26: | Type CC, EE, and GG for milling and paving operations on the Colfax and Walcott ramps and crossroads as needed. |
| D-704-27: | Mobile operations. |
| D-704-35: | One lane closure on Interstate. |
| D-704-38, 39: | Median crossovers. |
| D-704-45: | Construction traffic median crossovers. |
| D-704-50: | Portable sign support assemblies. |
| D-704-51: | Portable precast concrete median barriers. |
| D-704-56: | Grinding shoulder rumble strips. |

704-P02 TRAFFIC CONTROL PHASING: The traffic control details, as indicated on the plans, have been developed based on the premise that this project will be constructed in 5 phases. The traffic control device lists include the required number of devices for each phase of each described work area. The Contractor is responsible for removing and resetting devices for each phase of construction. The costs associated with removing and resetting traffic control devices is included in the price bid for other items.

The construction phasing plan is as listed below. Only one phase may be active at a time.

Phase 1: Close the outside lane of northbound I-29.

- Install W-beam guardrail and end terminal at Pitcairn Creek (east side of 0029-034.359R) and Wild Rice River (east side of 0029-041.629R).

Phase 2: Close the inside lane of northbound I-29.

- Install temporary w-beam guardrail, end terminals, and guardrail widening at Pitcairn Creek (west side of 0029-034.359R) and Wild Rice River (west side of 0029-041.629R).

- Obliterate existing pavement marking and install new temporary traffic control striping on the inside lane of northbound I-29 in preparation for Phase 3.
- Obliterate existing pavement marking and install raised pavement markers on the existing median crossovers in preparation for Phase 3.
- Install raised pavement markers and delineators at existing ramp connections inside the interstate median and ramp gore areas along southbound I-29 in preparation for Phase 3.

Phase 3: Close southbound I-29, implementing head to head traffic on northbound I-29.

- Activate the temporary ramp connections and median crossovers for the reconstruction of southbound I-29.
- Reconstruct southbound I-29.
- Head to head traffic on northbound I-29 will not be permitted prior to April 1, 2018.

Phase 4: Close the inside lane of northbound and southbound I-29.

- Remove temporary guardrail, end terminals, and guardrail widening at Pitcairn Creek (west side of 0029-034.359R) and Wild Rice River (west side of 0029-041.629R).
- Remove temporary ramp connections installed within the interstate median.
- Construct temporary ramp connections within the interstate median in preparation for future northbound I-29 reconstruction

Phase 5: Close the outside lane of southbound I-29. Close the outside lane of northbound I-29.

- Southbound I-29
 - Mill & overlay of the Colfax Interchange (RP 37.043) exit and entrance ramps.
 - Mill & overlay of Richland County Road 4 crossroad at the Colfax Interchange (RP 37.043).
 - Mill & overlay and crack sealing of the Walcott Interchange (RP 42.169) exit and entrance ramps.
 - Mill & overlay of Richland County Road 2 crossroad at the Walcott Interchange (RP 42.117).
 - Remove temporary ramp connections within the gore areas of each interchange.
 - The ramps will remain open to traffic during construction.
 - Work will be performed in stages with traffic being switched between the left and right sides of the ramps. Work on the ramps will not begin until after southbound I-29 is re-opened to traffic and temporary ramp connections within the interstate median have been removed and re-constructed for future northbound I-29 reconstruction.
- Northbound I-29
 - Remove temporary guardrail, end terminals, and guardrail widening at Pitcairn Creek (east side of 0029-034.359R) and Wild Rice River (east side of 0029-041.629R).
 - Install temporary ramp connections within the gore areas of each interchange in preparation for future northbound I-29 reconstruction.

704-P03 CHRISTINE INTERCHANGE DECK REPLACEMENT: The Christine interchange concrete deck can be replaced concurrently with any of the traffic control phasing with the exception of phase 5. The detour layout in Section 100 depicts the deck being replaced

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NOTES

Revised	11/08/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	IM-8-029(170)033	6	4

during phase 3. Adjust the detour traffic control to accommodate the appropriate phase.

704-P04 INTERCHANGE RAMP CONNECTIONS: During the period that the mainline pavement being utilized for temporary ramp connections is being reconstructed, route the public traffic using the ramps around the paving area as shown in Section 100 of the plans. The proposed interstate and ramp paving must be complete and fully cured to prevent the need for temporary paving. Traffic then may use the new ramp for access to the interchange. Include all costs associated with temporary embankment and aggregate surfacing within the median and shifting traffic control to accommodate paving operations in the price bid for other items.

704-P05 TUBULAR MARKERS: Salvage existing triple-weighted tubular markers located at existing median crossovers and ramp connections. Immediately reset triple-weighted tubular markers at 5' spacing at all locations shown in Section 100 after completion of southbound I-29 reconstruction and the construction of the new temporary ramp connections in preparation for future northbound I-29 reconstruction. Add weight, as necessary, to triple-weighted tubular markers to achieve a minimum weight of 36 lbs. There are 280 tubular markers onsite for salvaging. Include costs for providing the additional 307 weighted tubular markers in the price bid for "Tubular Markers".

The triple-weighted tubular markers will remain property of the state at the completion of the project. Include all cost for removing and resetting tubular markers in the unit price bid for "Tubular Markers."

704-P06 TRAFFIC CONTROL FOR HMA OVERLAYS: Provide traffic control consisting of a temporary lane closure and flagging.

The maximum work zone length is limited to one day's production.

For estimating purposes, the traffic control device list is based on the following list:

1. Standard D-704-22, Types K and L;
2. Standard D-704-26, Types CC, EE, and GG; and
3. Standard D-704-35.

If all or portions of the lane closure are removed and uneven lanes exist, provide traffic control as specified in Section 704.04 O, "Traffic Control for Uneven Pavement".

Complete work in a manner such that lane closures can safely be removed if no work is to take place for more than 3 consecutive days. Remove lane closures if no work is to take place for more than 3 consecutive days.

The Department will pay for all necessary deployed devices, regardless of the number and length of the lane closures.

704-P07 TRAFFIC CONTROL FOR SHOULDER DROP-OFF: During Phase 5, when constructing the temporary ramp connections within the gore area, if the shoulder and adjacent driving lane are not even at the end of the day, the following criteria will apply:

Place the following sign assembly at the locations listed below.

Sign Assembly: Sign No. W8-9a-48 "Shoulder Drop Off" and supplemental plate Sign No. W20-52-54 to identify the distance.

Locations:

- In advance of the drop off;
- Spaced at each mile from the advance sign; and
- At major intersections (CMC routes, state and US highways, and Interstate Ramps).

If the difference in elevation between the shoulder and the driving lane is 2" or greater, construct a slough on the driving lane that is 4:1 or flatter. If the difference in elevation between the shoulder and driving lane is less than 2", no slough is required. Sign assemblies will be measured and paid for according to Section 704 "Temporary Traffic Control".

704-P08 PAVEMENT MARKING REMOVAL: Obliterate the centerline and edge lines as shown in Section 100 of the plans and Standard Drawings D-704-38 and D-704-39. At the interchange ramp connections, obliterate the centerline and edge lines as shown in Section 100 of the plans. Masking of existing pavement markings on the southbound roadway will be accepted. The obliteration of the markings will be paid by the square foot removed. Include the cost of all equipment, material, and labor, including the removal of sheeting, if used, in the price bid for "Obliteration of Pavement Marking."

706-P01 AGGREGATE LABORATORY: Supply an Aggregate Laboratory with a printer/copy machine. Include the cost in the contract unit price for "Aggregate Laboratory." The NDDOT Fargo district will provide the aggregate lab testing equipment.

706-P02 BITUMINOUS LABORATORY: If Alternative B is selected 'Concrete Median Shoulder W/ 8' Asphalt Outside Shoulder' supply a Bituminous Laboratory with a printer/copy machine. Include the cost in the contract unit price for "Bituminous Laboratory."

706-P03 FIELD OFFICE: Provide a field office which meets the following requirements:

1. The field office shall be a minimum of 450 square feet.
2. Indoor bathroom facilities and weekly cleaning services.
3. Air conditioner (20,000 BTU minimum)
4. Lighting (lumens required 110 foot- candles)
5. Minimum of 3 phone jacks (NDDOT to pay for phone service)
6. Heat, electric, sewer, and water hookups with potable water to be furnished by Contractor, Contractor to pay utility bills.
7. Cabinet space of a minimum of 32 cubic feet.
8. Counter space of a minimum of 40 square feet.
9. The floor is to be free of protrusions so that it will accommodate NDDOT furnished office equipment.
10. The location of the field office shall be on, or as close to the project as possible and approved by the Engineer. Any rental fees shall be paid by Contractor.
11. The field office shall be available for occupancy at the start of the project and remain available to project completion.
12. The following services will be furnished and paid for by the NDDOT and requested through the Work Management System:
 - a. Telephone
 - b. Broadband internet service including State Network access

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NOTES

Revised	11/08/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	IM-8-029(170)033	6	5

13. Photocopy/printer with scanning capabilities capable of 8.5x11 and 11x17 photocopies and toner to last the duration of the project. Other features to include digital copying, scanning, and USB port on the Copier/Printer. Copier/Printer machine with operating software compatible with that used by the NDDOT. A 12' printer cable is required.

All requirements of the Field Office are subject to approval by the Engineer. Include all costs associated with the field office in the price bid for "Field Office."

Schedule for Payments:

- 25% when set up on site
- 50% when 30% of work is complete
- 75% when 60% of work is complete
- 100% when project is complete

714-P01 INSTALL CONCRETE PIPE TIES: Expose and tie all centerline culverts within the project limits. Include all costs associated with exposing the centerline culverts, placing type S2 geotextile fabric over the joints and tying all concrete joints in the unit price bid for "Install Concrete Pipe Ties". Tie RCP in accordance with D-714-22. Backfill pipe in accordance with Section 714 of the Standard Specifications.

Pipe that has separated will be relayed at the discretion of the field Engineer. A discretionary quantity of 200 LF of "Remove & Relay Pipe-All Types & Sizes" has been provided in the plans. Place bedding for relayed pipe in accordance with Standard Drawing D-714-25, D-714-25M, D-714-26 or D-714-26M.

Pipe sections deemed unsalvageable will be replaced at the discretion of the field Engineer. Discretionary quantities of 100 LF of Pipe Conc Reinf 24 IN, 50 LF of Pipe Conc Reinf 30 IN, 50 LF of Pipe Conc Reinf 36 IN and 1000 SY of Geotextile Fabric – Type R1 have been provided in the plans. Payment for replacing unsalvageable pipe will be included in the price bid for "Pipe Conc Reinf _In CL III".

714-P02 REMOVE & RELAY PIPE-ALL TYPES & SIZES: Include all costs associated with removing and relaying the existing 48" RCP T-Section, 24" RCP riser and existing pipe sections at Sta 305+44 (RC_42_N_SER) in the bid price for "Remove & Relay Pipe-All Types & Sizes".

714-P03 PVC PIPE: Provide PVC pipe material that meets the requirements of Section 830.03 A.3.

714-P04 RELAY PIPE-ALL TYPES & SIZES: Include all costs associated with removing and relaying PVC pipes at ramp connections in the unit price bid for "Relay Pipe – All Types & Sizes".

722-P01 RELAY PRECAST CONCRETE MEDIAN DRAIN: Include all costs associated with relaying and installing the precast concrete median drain at Sta 305+44 (RC_42_N_SER) in the bid price for "Relay Precast Concrete Median Drain".

722-P02 CASTING MOUNTABLE CURB-TYPE A: Remove and replace existing inlet castings at designated locations on grade separations with a new Type A mountable curb casting and grates. Include all costs for removal and disposal of the existing curb inlet castings and grates, and for furnishing and installing the new mountable Type A castings and grates in the price bid for the item "Casting Mountable Curb - Type A."

748-P01 CURB & GUTTER – TYPE 1 SPECIAL: Fifteen lineal feet of curb and gutter is required along each side of the roadway at the ends of the bridge approach slabs, at the Christine

Interchange Crossroad, RP 44.126. The curb and gutter shall be Type 1 as shown on Standard Drawing D-748-1, except the last 2 feet of curb and gutter, at the end nearest the approach slab, will be transitioned to match the shape of the single slope barrier and the end of the curb furthest from the bridge approach slab shall be tapered from a 6" curb height to 0" curb height in 3 feet, as shown on Standard Drawing D-764-60. All costs for constructing the curb and gutter as described above, shall be included in the price bid for "Curb & Gutter – Type 1 Special."

754-P01 DELINEATOR: Approximately 7 delineator posts may need to be removed to accommodate the temporary ramp connections on this project. Include all cost to remove and reset any delineator posts in the price bid for other items. After northbound and southbound traffic has been restored, stockpile delineators required for head to head traffic at the rest area at Sta 2160+00 Lt for the future northbound reconstruction project.

754-P02 REMOVED CONCRETE FOUNDATIONS: Remove existing concrete foundations or obliterate to a minimum 3-foot depth below proposed finished grade.

754-P03 REMOVED SIGNING: Remove and dispose of all existing telescoping perforated tube, w-shape post supports, yellow faced signs and extruded aluminum sign panels. Deliver the existing round pipe supports to the Fargo District sign shop at 503 38th St South, Fargo. Contact the Fargo District sign shop 24 hours prior to delivery at (701) 239-8900. Include all costs associated with the removal and delivery of the sign panels and supports in the price bid for the item "Remove Sign Foundation".

762-050 PAVEMENT MARKING: If the Engineer and Contractor agree, plan quantity will be used as the measurement for payment for pavement marking items.

762-P01 RAISED PAVEMENT MARKERS: Place raised pavement markers on the centerline of the two-lane two-way roadway. Place the markers in pairs, 4 inches apart, spaced at 5 feet along the centerline. Place raised pavement markers on the median crossovers and ramp connections at 5' spacings. Place the markers as per Standard Drawings 704-38 & 704-39 and as per Section 100. Provide Stimsonite No. 66, Flex-O-Lite, RCM construction marker, or equal. Clean the raised pavement markers when necessary to retain reflectivity. At completion of the project, remove the markers in accordance with the manufacturer's recommendations and when removed, take care to have the adhesive pad removed down as close as possible to the pavement using a mechanical scraper such as a loader-type machine with a bucket. The raised pavement markers will be measured by the number complete in place and accepted by the Engineer.

Include the cost of furnishing, installing, maintaining, and removing in the price bid for "Raised Pavement Markers."

764-P01 W-BEAM GUARDRAIL: The W-beam guardrail materials on SB I29 at the Pitcarin Creek Bridge, Wild Rice River Bridge and the Christine Interchange Bridge are scheduled to be removed and reset under phase 3 of the traffic control phasing plan. Reset an assumed 75% of existing guardrail as directed by the Engineer. Deliver the remaining guardrail materials deemed salvageable by the Engineer to the NDDOT Maintenance Storage Yard located at 503 38th St South, Fargo and neatly stack at the location in the storage yard. Notify the NDDOT Maintenance Storage Yard 24 hours prior to delivery at (701) 239-8900. Include all costs to

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NOTES

Revised	11/08/17	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	IM-8-029(170)033	6	6

remove and deliver temporary guardrail material in the price bid for the removal of guardrail items. Quantities for the End Treatment & Transition and the additional W-Beam Guardrail have been provided.

764-P02 W-BEAM GUARDRAIL END TERMINALS FOR TWO-WAY TRAFFIC: The W-beam guardrail end terminals and additional guardrail materials required for two-way traffic are scheduled to be removed under phase 4 and 5 of the traffic control phasing plan. Delivered the guardrail materials to the NDDOT Maintenance Storage Yard located at 503 38th St South, Fargo and neatly stack at the location in the storage yard. Notify the NDDOT Maintenance Storage Yard 24 hours prior to delivery at (701) 239-8900.

The W-beam guardrail end terminals will be measured and paid for by the number of W-beam guardrail end terminals required and accepted by the engineer. Include all costs associated with materials, including W-Beam terminal connector and W-beam rail sections, and all necessary posts, blocks, hardware, equipment, and labor in the unit price bid for "W-Beam Guardrail End Terminal". Include all costs to remove and deliver temporary guardrail material in the price bid for "W-Beam Guardrail End Terminal".

764-P03 REMOVE CONCRETE SAFETY SHAPE TRANSITION: This item consists of removing the concrete safety shape transitions at the corners of the Christine Interchange, RP 44.126. Each safety shape transition is 13'-7" in length and is constructed of approximately 2.1 cubic yards of reinforced concrete. The bottom of the safety shape transitions is approximately 2 feet below the finished surface. Saw cutting may be required to separate the safety shape transitions from the adjacent concrete bridge barrier that is to remain in place. The removed safety shape transitions is the property of the contractor. Repair any damage to the bridge ends that are to remain in place resulting from removal of the concrete safety shape transitions. Include costs to repair any damage in the unit price bid for "Remove Concrete Safety Shape". The item "Remove Concrete Safety Shape Transition" will be paid for by the number of safety shape transitions removed.

764-P04 GUARDRAIL EMBANKMENT: The embankment material required for guardrail installation may be obtained from the excess material removed from the I-29 grading, with the approval of the Engineer.

990-P01 PIPE CLEANOUT: Remove any silt or debris encountered in the centerline culverts. A discretionary quantity of 12 EA has been provided in the plans. Include costs associated with removing the silt or debris in the price bid for "Pipe Cleanout".

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ESTIMATE OF QUANTITIES

SPEC	CODE	ITEM DESCRIPTION	UNIT	TOTAL
103	0100	CONTRACT BOND	L SUM	1
201	0330	CLEARING & GRUBBING	L SUM	1
202	0101	REMOVAL OF CONCRETE	EA	1
202	0111	REMOVAL OF CONCRETE	L SUM	1
202	0113	REMOVAL OF CONCRETE	CY	73.8
202	0130	REMOVAL OF CURB & GUTTER	LF	560
202	0132	REMOVAL OF BITUMINOUS SURFACING	SY	15,024
202	0136	REMOVAL OF PAVEMENT	TON	133,454
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA	58
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	332
202	0237	REMOVAL OF MEDIAN DRAIN PRECAST CONCRETE	EA	1
202	0312	REMOVE EXISTING FENCE	LF	9,139
202	0350	REMOVAL OF TEMPORARY BYPASS	EA	5
203	0109	TOPSOIL	CY	75,173
203	0138	COMMON EXCAVATION-SUBCUT	CY	1,561
203	0218	GUARDRAIL EMBANKMENT	EA	10
210	0051	BOX CULVERT EXCAVATION - SITE 1	EA	1
210	0052	BOX CULVERT EXCAVATION - SITE 2	EA	1
210	0210	FOUNDATION FILL	CY	30
210	0405	FOUNDATION PREPARATION-BOX CULVERT	EA	1
216	0100	WATER	M GAL	3,453
220	0100	PREPARE STOCKPILE SITE	L SUM	1
220	0200	RESTORE STOCKPILE SITE	L SUM	1
230	0106	RESHAPING ROADWAY	MILE	12.22
230	0320	SUBGRADE PREPARATION-TYPE C-12IN	STA	557
251	0200	SEEDING CLASS II	ACRE	109.8
251	2000	TEMPORARY COVER CROP	ACRE	108.7
253	0201	HYDRAULIC MULCH	ACRE	218.5
255	0103	ECB TYPE 3	SY	2,242
255	0202	TRM TYPE 2	SY	838
256	0100	RIPRAP GRADE I	CY	21
256	0200	RIPRAP GRADE II	CY	30
260	0200	SILT FENCE SUPPORTED	LF	2,135
260	0201	REMOVE SILT FENCE SUPPORTED	LF	2,135
261	0112	FIBER ROLLS 12IN	LF	155,954
261	0113	REMOVE FIBER ROLLS 12IN	LF	77,716
302	0100	SALVAGED BASE COURSE	TON	101,389
401	0050	TACK COAT	GAL	1,896
401	0060	PRIME COAT	GAL	4,761
411	0105	MILLING PAVEMENT SURFACE	SY	14,221
430	0040	SUPERPAVE FAA 40	TON	6,035
430	2000	PATCHING	TON	500
430	5803	PG 58S-28 ASPHALT CEMENT	TON	363
550	0302	8.5IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY	200,872
570	0966	RANDOM PCC CRACK CLEANING & SEALING	LF	249
602	0130	CLASS AAE-3 CONCRETE	CY	269.6
602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	48.9
602	1133	CONCRETE BRIDGE APPROACH SLAB	SY	144.4
602	1135	BRIDGE APPROACH SLAB-REMOVE & REPLACE	SY	364.4
602	1250	PENETRATING WATER REPELLENT TREATMENT	SY	783
612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	9,392
612	0115	REINFORCING STEEL-GRADE 60	LBS	1,204
612	0116	REINFORCING STEEL-GRADE 60-EPOXY COATED	LBS	68,747
624	3002	DOUBLE BOX BEAM RAIL RETROFIT - E-RAIL	LF	1,441.7
624	3005	CONNECTION PLATE MODIFICATION	EA	2
702	0100	MOBILIZATION	L SUM	1
704	0100	FLAGGING	MHR	3,250
704	1000	TRAFFIC CONTROL SIGNS	UNIT	14,096
704	1045	ATTENUATION DEVICE-TYPE B-75	EA	2
704	1052	TYPE III BARRICADE	EA	63
704	1060	DELINEATOR DRUMS	EA	514
704	1067	TUBULAR MARKERS	EA	1,649
704	1070	DELINEATOR	EA	460
704	1072	FLEXIBLE DELINEATORS	EA	864
704	1080	STACKABLE VERTICAL PANELS	EA	166
704	1081	VERTICAL PANELS-BACK TO BACK	EA	12
704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	2
704	1088	SEQUENCING ARROW PANEL-TYPE C-CROSSOVER	EA	2
704	1090	FLASHING BEACON	EA	2
704	1500	OBLITERATION OF PAVEMENT MARKING	SF	6,965
704	3510	PRECAST CONCRETE MED BARRIER-STATE FURNISHED	EA	79
706	0400	FIELD OFFICE	EA	1
706	0500	AGGREGATE LABORATORY	EA	1
706	0600	CONTRACTOR'S LABORATORY	EA	1
709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	17,904
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	4,298
709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	112
714	0615	PIPE CONC REINF 24IN CL III	LF	194
714	0820	PIPE CONC REINF 30IN CL III	LF	56
714	0905	PIPE CONC REINF 36IN CL III	LF	80

ESTIMATE OF QUANTITIES

SPEC	CODE	ITEM DESCRIPTION	UNIT	TOTAL
714	1005	PIPE CONC REINF 42IN CL III	LF	6
714	3020	END SECT-CONC REINF 24IN	EA	18
714	3023	END SECT-TRAVERSABLE REINF. CONC.24IN	EA	11
714	3030	END SECT-CONC REINF 30IN	EA	4
714	3033	END SECT-TRAVERSABLE REINF. CONC.30IN	EA	3
714	3035	END SECT-CONC REINF 36IN	EA	13
714	3036	END SECT-TRAVERSABLE REINF. CONC.36IN	EA	1
714	3040	END SECT-CONC REINF 42IN	EA	1
714	3045	END SECT-CONC REINF 48IN	EA	1
714	4122	PIPE CONDUIT 42IN-APPROACH	LF	144
714	7030	PIPE PVC 12IN	LF	311
714	9640	RELAY PIPE-ALL TYPES & SIZES	LF	1,726
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES	LF	234
714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	2
714	9900	INSTALL CONCRETE PIPE TIES	SET	298
714	9917	FLAP GATE 42IN	EA	3
720	0125	ALIGNMENT MONUMENTS	EA	1
720	0135	IRON PIN REFERENCE MONUMENTS	EA	11
722	3485	CASTING MOUNTABLE CURB-TYPE A	EA	12
722	4581	RELAY PRECAST CONCRETE MEDIAN DRAIN	EA	1
748	0141	CURB & GUTTER-TYPE 1 SPECIAL	LF	60
748	0150	MOUNTABLE CURB & GUTTER-TYPE 1 SEC A	LF	480
752	0700	FENCE WOVEN WIRE	LF	9,139
752	0993	FENCE TERMINAL	EA	7
752	3120	CORNER ASSEMBLY WOVEN WIRE	EA	10
752	4120	DOUBLE BRACE ASSEMBLY WOVEN WIRE	EA	2
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	50
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	59
754	0195	DIAMOND GRADE DELINEATORS-TYPE A	EA	141
754	0196	DIAMOND GRADE DELINEATORS-TYPE B	EA	64
754	0198	DIAMOND GRADE DELINEATORS-TYPE D	EA	18
754	0199	DIAMOND GRADE DELINEATORS-TYPE E	EA	2
754	0210	GALV STEEL POST-STANDARD PIPE	LF	139
754	0214	GALV STEEL POSTS-W-SHAPE POSTS(TWO OR MORE)	LF	692
754	0534	PANEL FOR SIGNS-TYPE IV REFLECTIVE SHEETING	SF	1,116
754	0556	INTERSTATE MILE POSTS-TYPE B	EA	11
754	0801	OBJECT MARKERS - TYPE I	EA	3
754	0805	OBJECT MARKERS - CULVERTS	EA	69
754	1100	CLASS AE CONCRETE-SIGN FOUNDATIONS	CY	3.1
754	1104	REMOVE SIGN FOUNDATION	EA	23
754	1220	REMOVE OVERHEAD SIGN STR BRIDGE MOUNTED	EA	1
760	0001	RUMBLE STRIPS - CONCRETE SHOULDER	MILE	20.84
762	0103	PVMT MK PAINTED-MESSAGE	SF	82.5
762	0200	RAISED PAVEMENT MARKERS	EA	28,092
762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	76,271
762	1104	PVMT MK PAINTED 4IN LINE	LF	225,111
762	1108	PVMT MK PAINTED 8IN LINE	LF	2,518
762	1124	PVMT MK PAINTED 24IN LINE	LF	130
764	0131	W-BEAM GUARDRAIL	LF	1,164
764	0145	W-BEAM GUARDRAIL END TERMINAL	EA	24
764	0151	REMOVE W-BEAM GUARDRAIL & POSTS	LF	1,908
764	1050	RESET W-BEAM GUARDRAIL	LF	800
764	1990	REMOVE CONCRETE SAFETY SHAPE TRANSITION	EA	4
764	2081	REMOVE END TREATMENT & TRANSITION	EA	20
900	1000	TEMPORARY STREAM DIVERSION	EA	1
990	0400	PIPE CLEANOUT	EA	12

ALTERNATE A: CONCRETE SHOULDERS

SPEC	CODE	ITEM DESCRIPTION	UNIT	TOTAL
216	0100	WATER	M GAL	609
302	0100	SALVAGED BASE COURSE	TON	30,453
550	0105	6IN NON-REINF CONCRETE PAVEMENT CL AE	SY	42,786

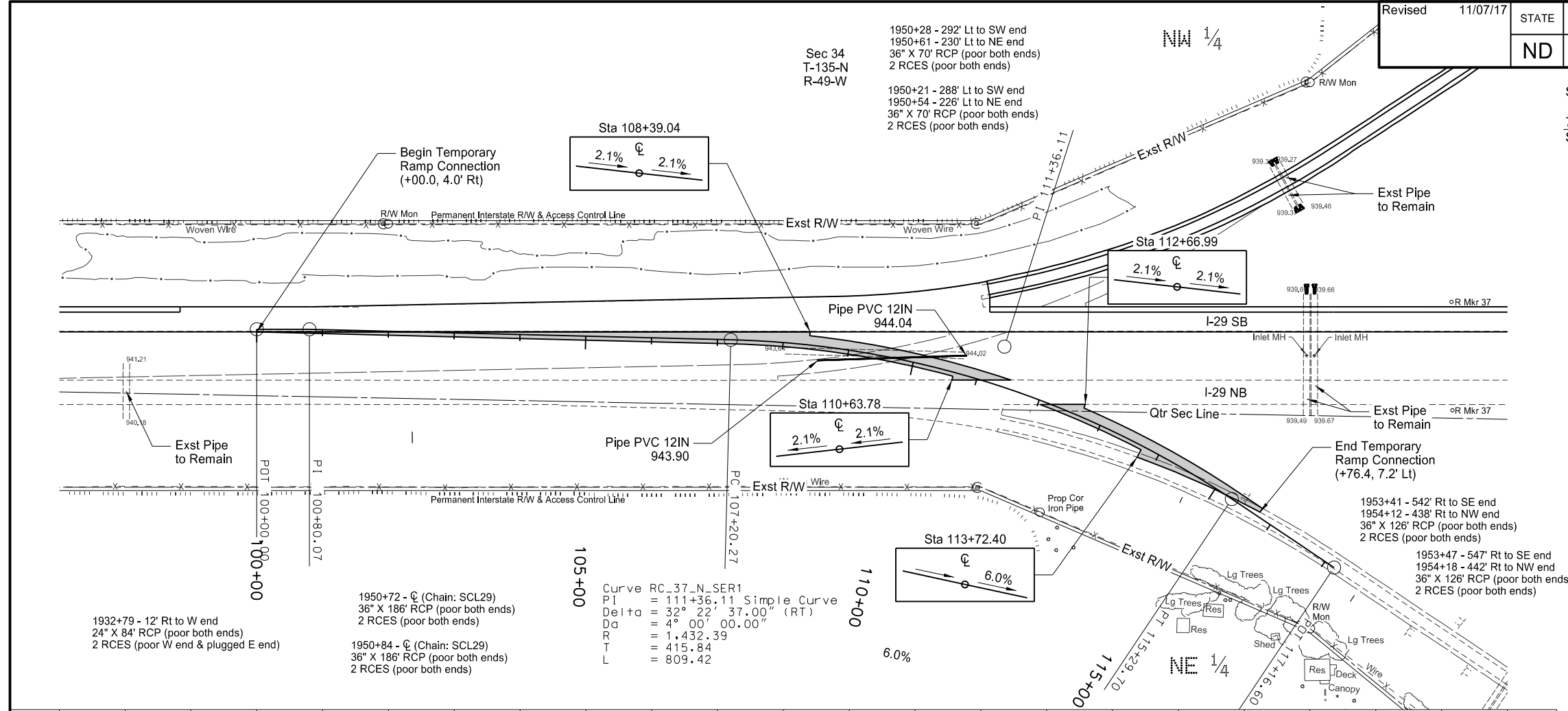
ALTERNATE B: CONCRETE MEDIAN SHOULDER W/ 8' ASPHALT OUTSIDE SHOULDER

SPEC	CODE	ITEM DESCRIPTION	UNIT	TOTAL
216	0100	WATER	M GAL	785
302	0100	SALVAGED BASE COURSE	TON	39,244
401	0050	TACK COAT	GAL	2,220
401	0060	PRIME COAT	GAL	12,034
430	0040	SUPERPAVE FAA 40	TON	9,877
430	1000	CORED SAMPLE	EA	109
430	5803	PG 58S-28 ASPHALT CEMENT	TON	594
706	0550	BITUMINOUS LABORATORY	EA	1

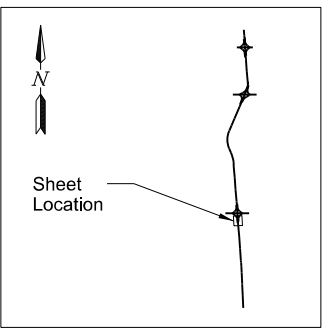
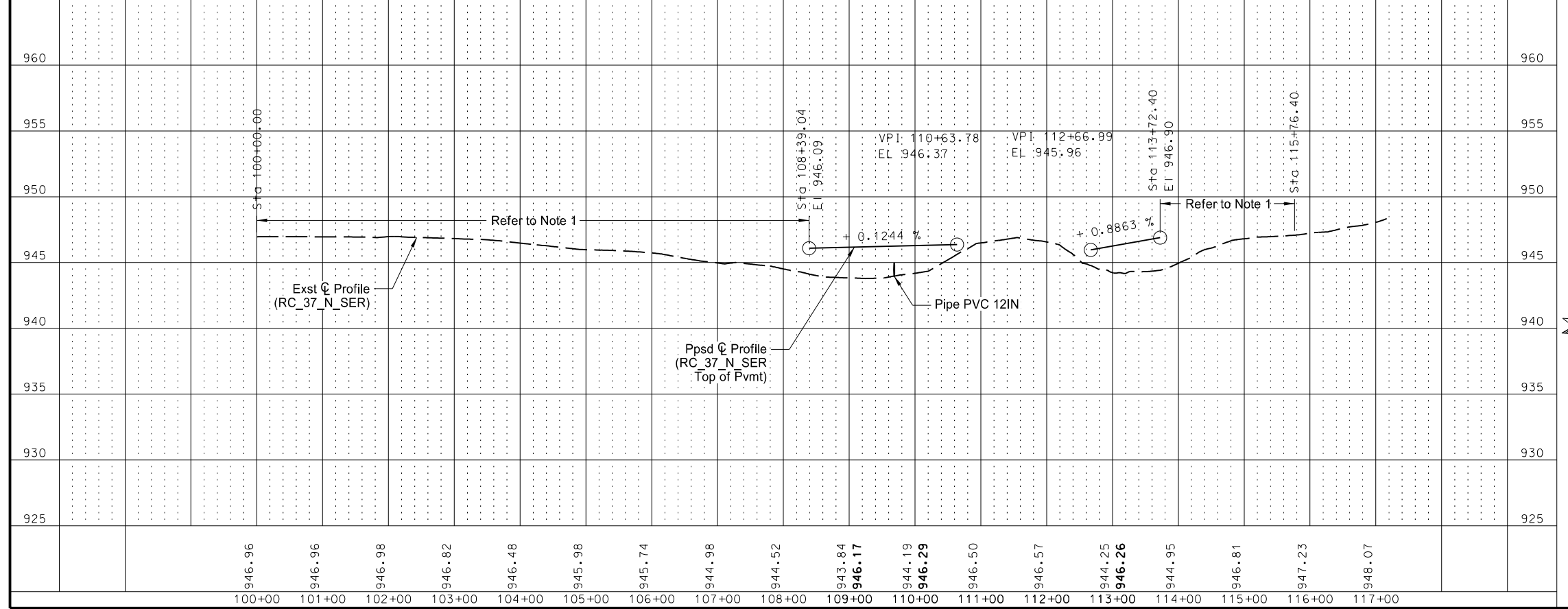
I-29 - N of Galchutt Exit to Christine Exit

Estimate of Quantities

SPEC	CODE	BID ITEM	QTY	UNIT
714	9640	RELAY PIPE-ALL TYPES & SIZES		
Sta 108+55 ~ 21.7' Rt to Sta 110+75 ~ 29.6' Lt			226	LF



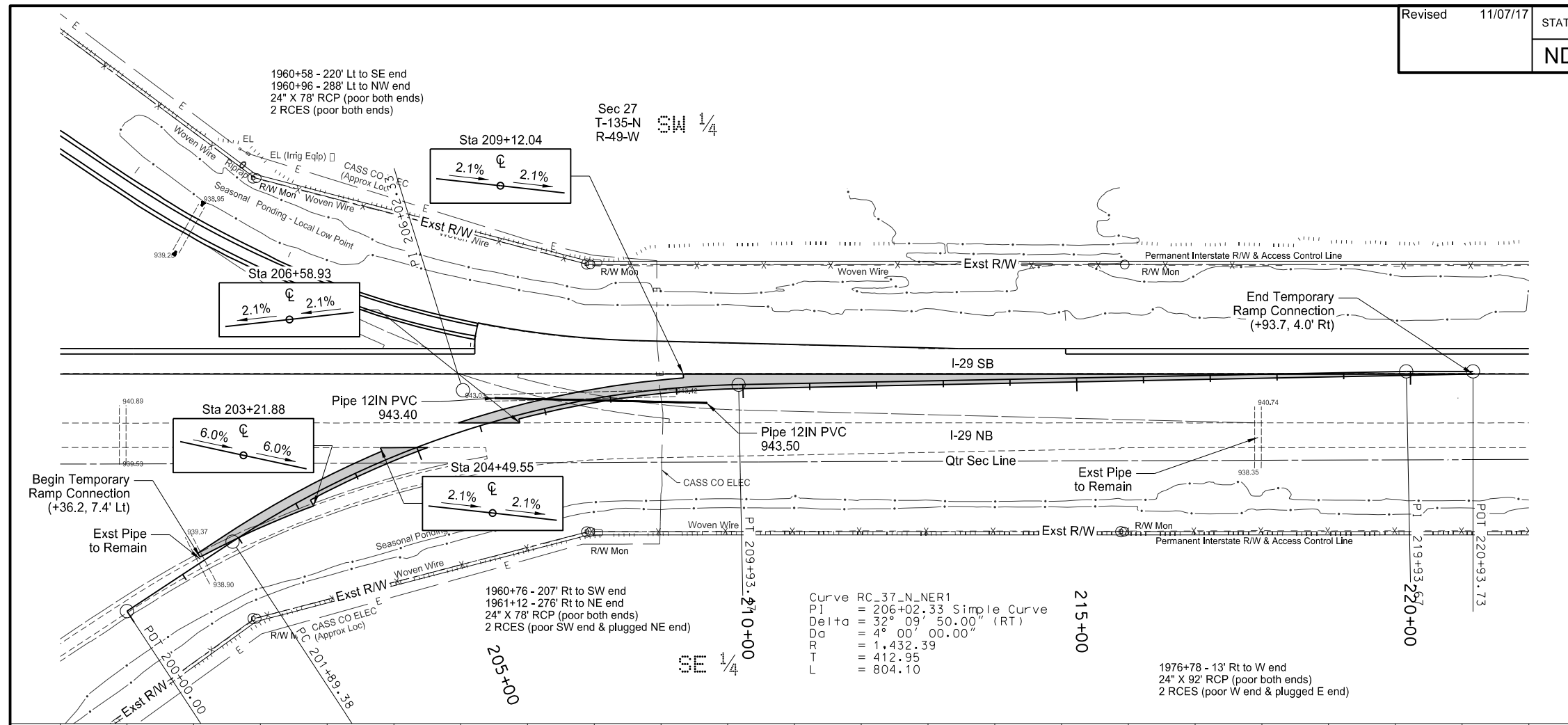
Notes:
 1. The proposed profile is controlled by the existing edge of pavement. The proposed pavement will match existing pavement elevations at the tie points.



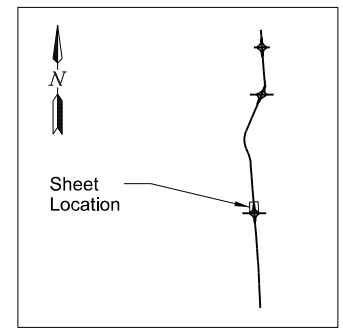
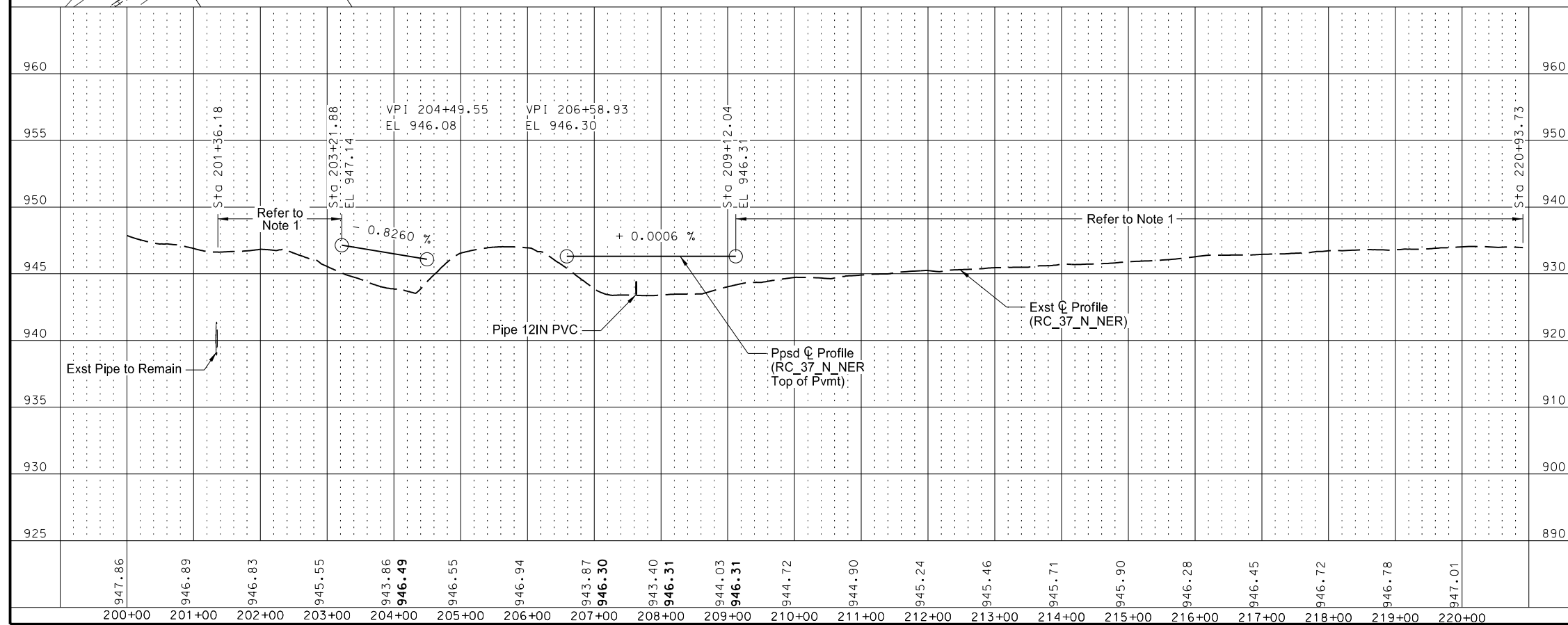
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I-29 - N of Galchutt Exit to Christine Exit
 Plan & Profile
 Colfax Interchange Southeast Ramp Connection
 Sta 100+00 to 115+76 (RC_37_N_SER)

SPEC	CODE	BID ITEM	QTY	UNIT
714	7030	PIPE PVC 12IN		
		Sta 209+14 ~ 22.8' Rt to Sta 209+44 ~ 25.5' Rt	30	LF
714	9640	RELAY PIPE-ALL TYPES & SIZES		
		Sta 206+33 ~ 33.4' Lt to Sta 209+14 ~ 22.8' Rt	287	LF



Notes:
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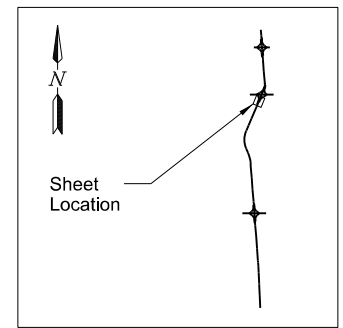
I-29 - N of Galchutt Exit to Christine Exit
 Plan & Profile
 Coflax Interchange Northeast Ramp Connection
 Sta 201+36 to 220+94 (RC_37_N_NER)

Revised 11/07/17

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	IM-8-029(170)033	60	32

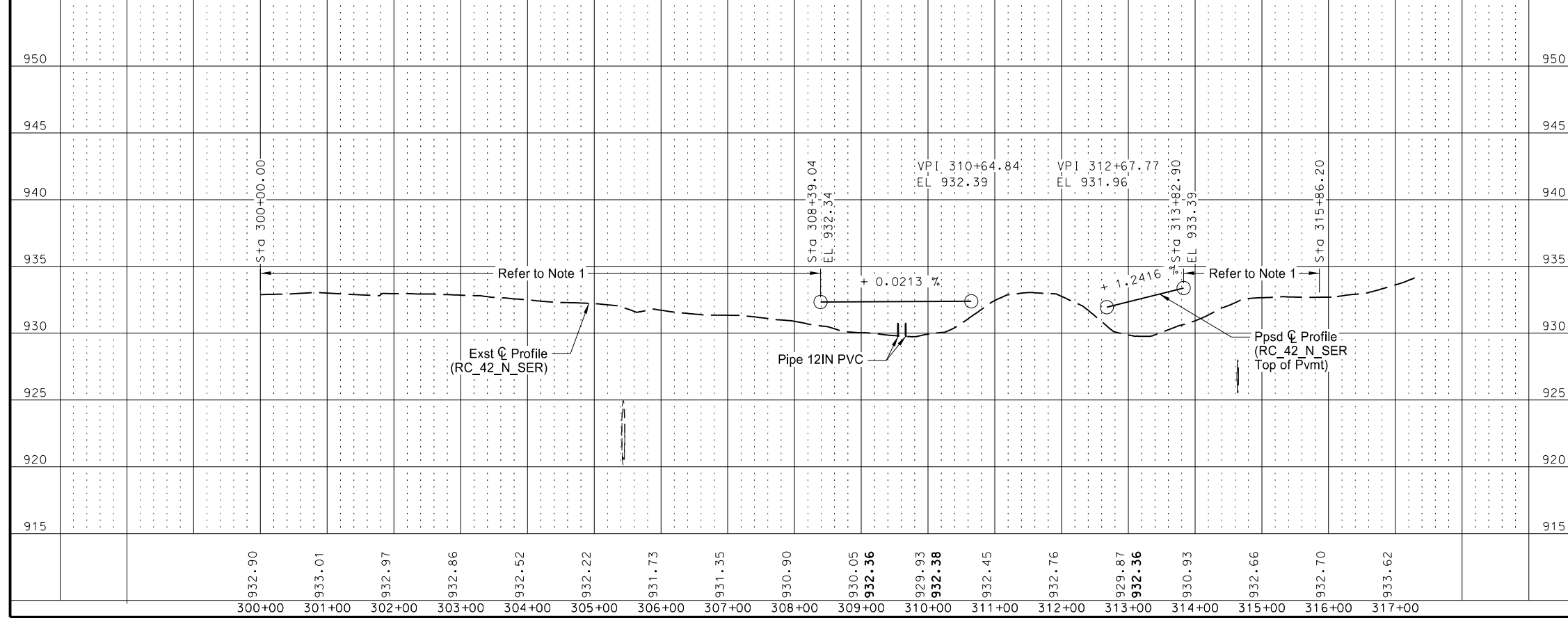
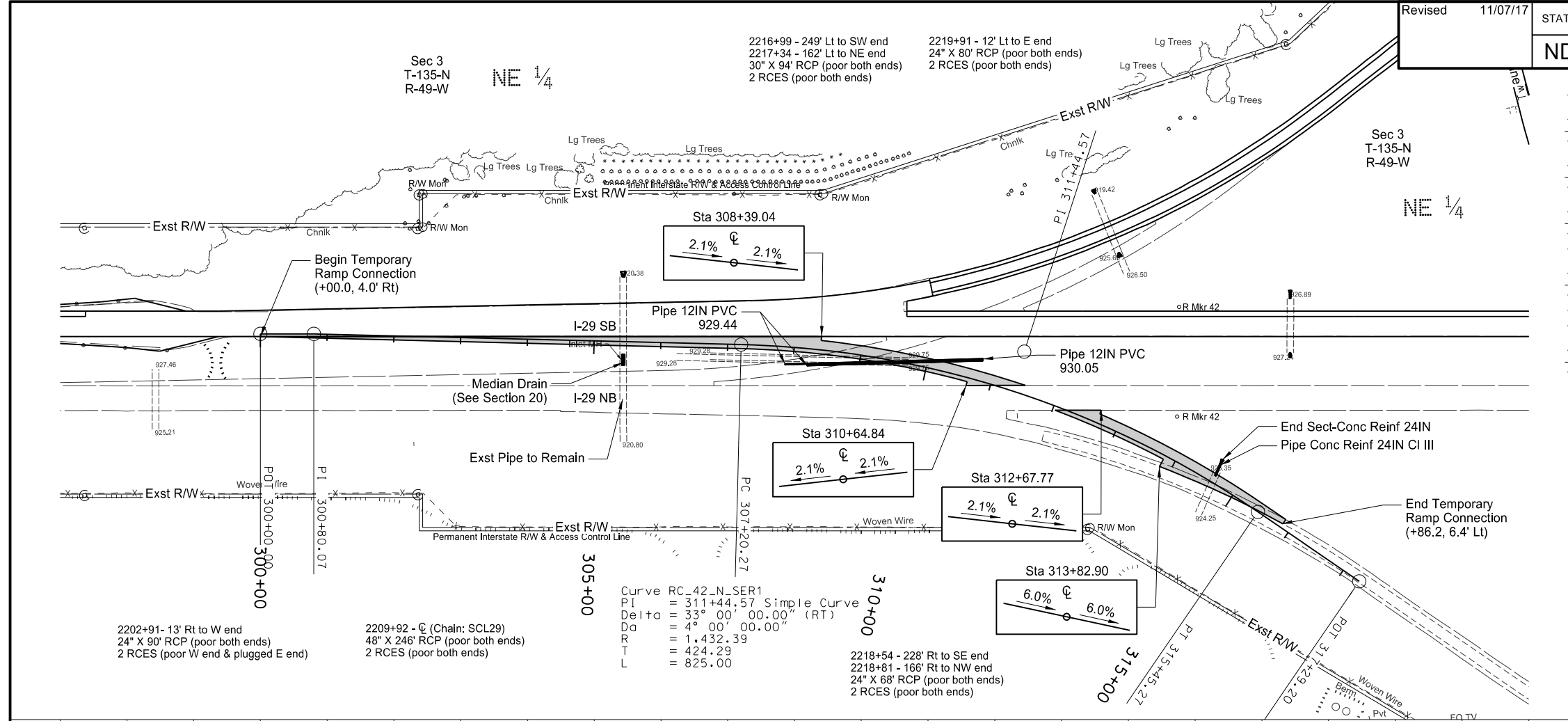
SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	PIPE CONC REINF 24IN CL III	20	LF
Sta 314+63 ~ 11.3' Lt to Sta 314+60 ~ 31.0' Lt				
714	3020	END SECT-CONC REINF 24IN	1	EA
Sta 314+60 ~ 31.0' Lt				
714	9640	RELAY PIPE-ALL TYPES & SIZES	296	LF
Sta 307+88 ~ 26.4' Rt to Sta 310+78 ~ 33.0' Lt				
Sta 308+22 ~ 25.2' Rt to Sta 310+79 ~ 30.6' Lt				
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES	8	LF
Sta 305+44 ~ 19.3' Rt to Sta 305+44 ~ 27.2' Rt				
Sta 305+44 ~ 27.2' Rt to Sta 305+45 ~ 35.2' Rt				
Sta 305+45 ~ 31.2' Rt				
722	4581	RELAY PRECAST CONCRETE MEDIAN DRAIN	1	EA
Sta 305+45 ~ 31.2' Rt				

Notes:
 1. The proposed profile is controlled by the existing edge of pavement. The proposed pavement will match existing pavement elevations at the tie points.



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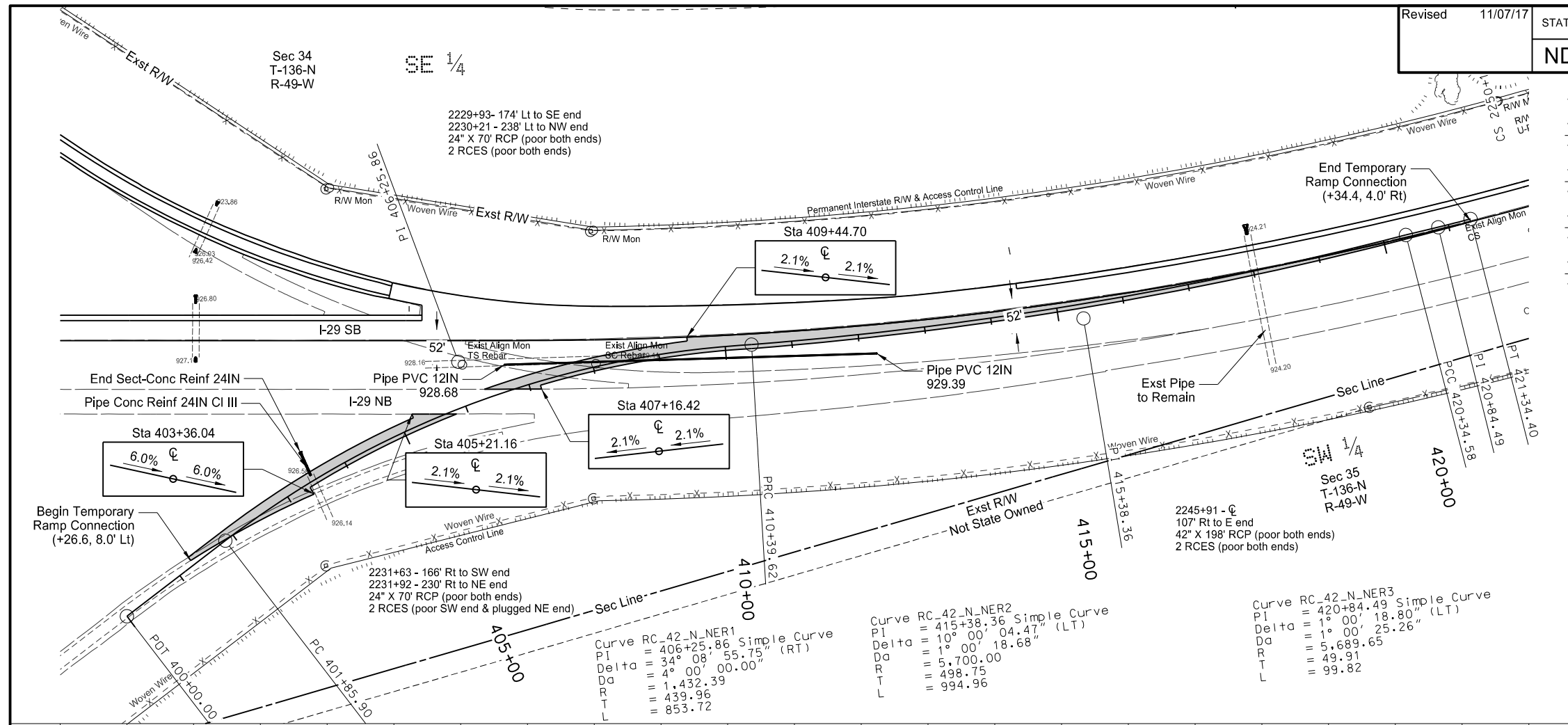
I-29 - N of Galchutt Exit to Christine Exit
 Plan & Profile
 Walcott Interchange Southeast Ramp Connection
 Sta 300+00 to 315+86 (RC_42_N_SER)



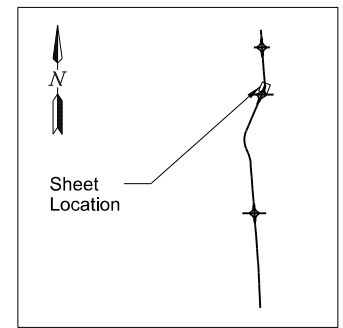
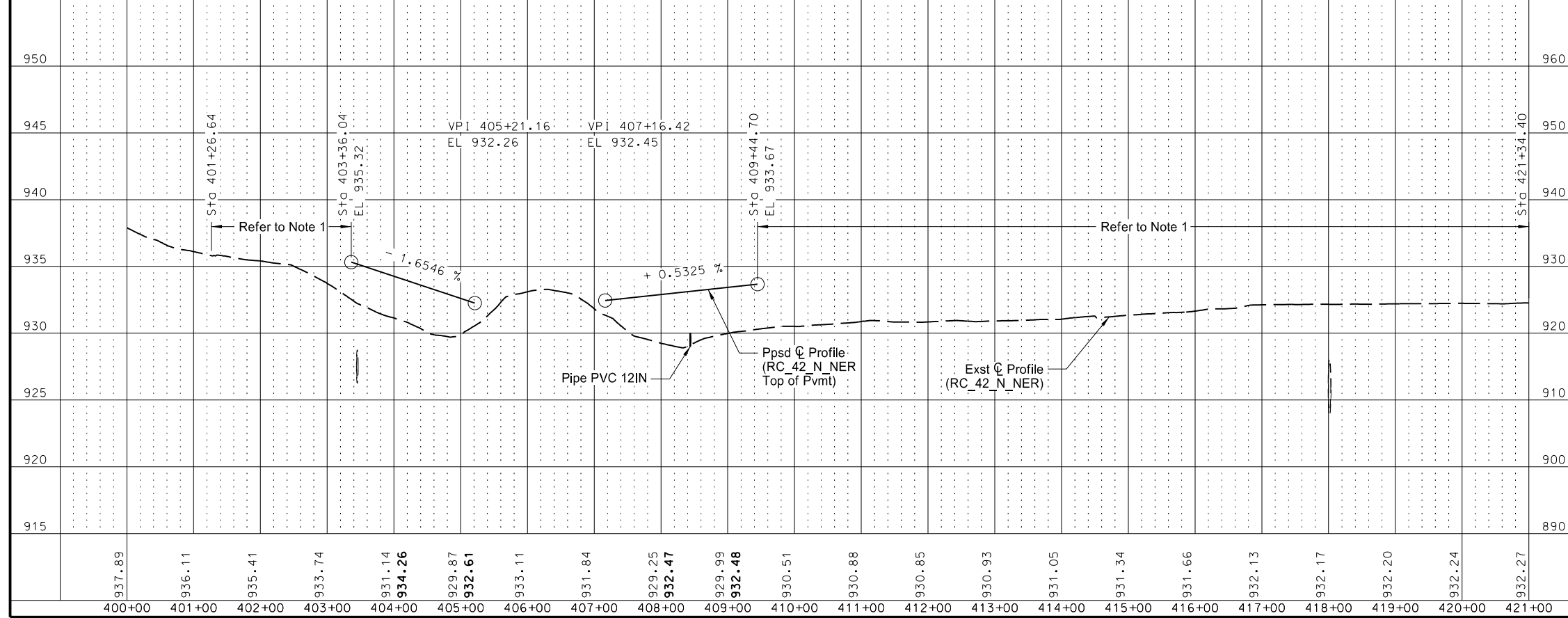
Revised 11/07/17

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	IM-8-029(170)033	60	33

SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	PIPE CONC REINF 24IN CL III	32	LF
Sta 403+46 ~ 8.8' Lt to Sta 403+50 ~ 40.5' Lt				
714	3020	END SECT-CONC REINF 24IN	1	EA
Sta 403+50 ~ 40.5' Lt				
714	7030	PIPE PVC 12IN	238	LF
Sta 409+88 ~ 16.5' Rt to Sta 412+25 ~ 30.9' Rt				
714	9640	RELAY PIPE-ALL TYPES & SIZES	320	LF
Sta 406+74 ~ 39.3' Lt to Sta 409+88 ~ 16.5' Rt				



Notes:
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I-29 - N of Galchutt Exit to Christine Exit
 Plan & Profile
 Walcott Interchange Northeast Ramp Connection
 Sta 401+27 to 421+34 (RC_42_N_NER)

2312+32 - 13' Lt to E end
24" X 80" RCP (poor both ends)
2 RCES (poor E end & plugged W end)

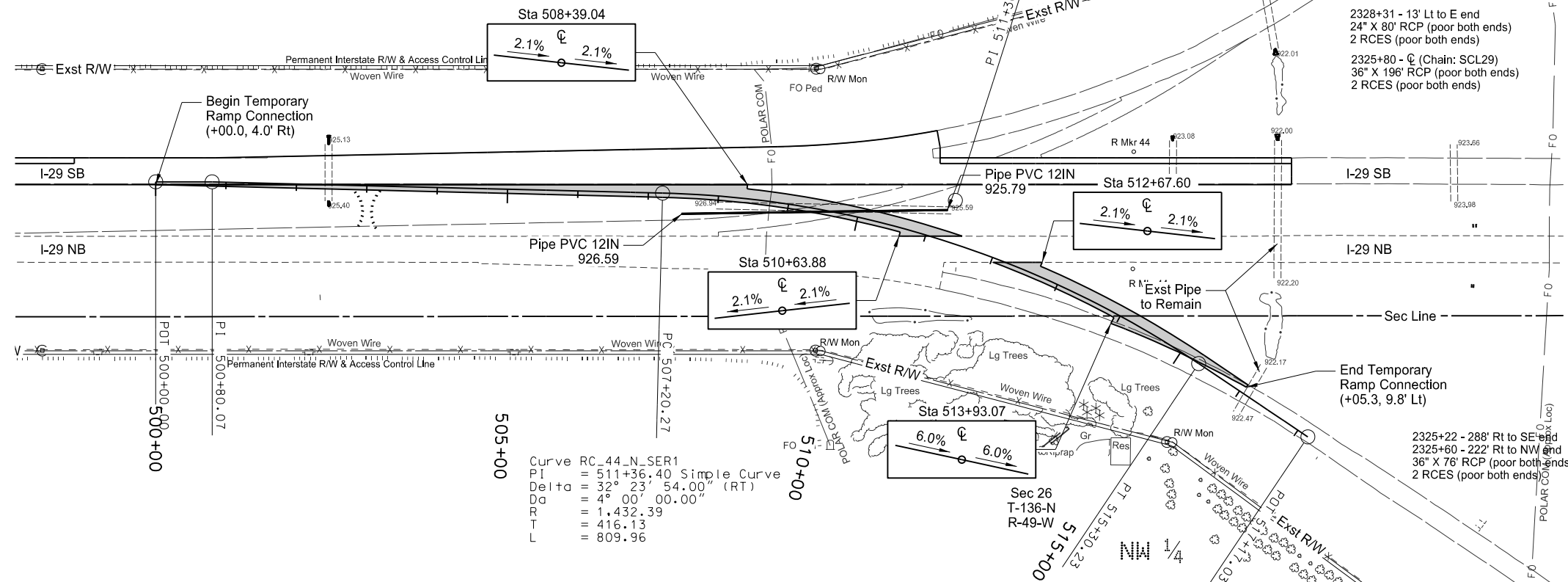
2325+61 - 316' Lt to SW end
2325+76 - 229' Lt to NE end
36" X 88" RCP (poor both ends)
2 RCES (poor both ends)
2324+31 - 13' Lt to E end
24" X 86" RCP (poor both ends)
2 RCES (poor both ends)

Sec 27
T-136-N
R-49-W

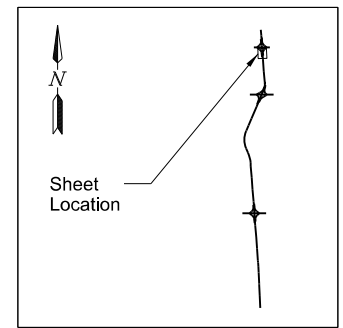
Revised 11/07/17

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	IM-8-029(170)033	60	34

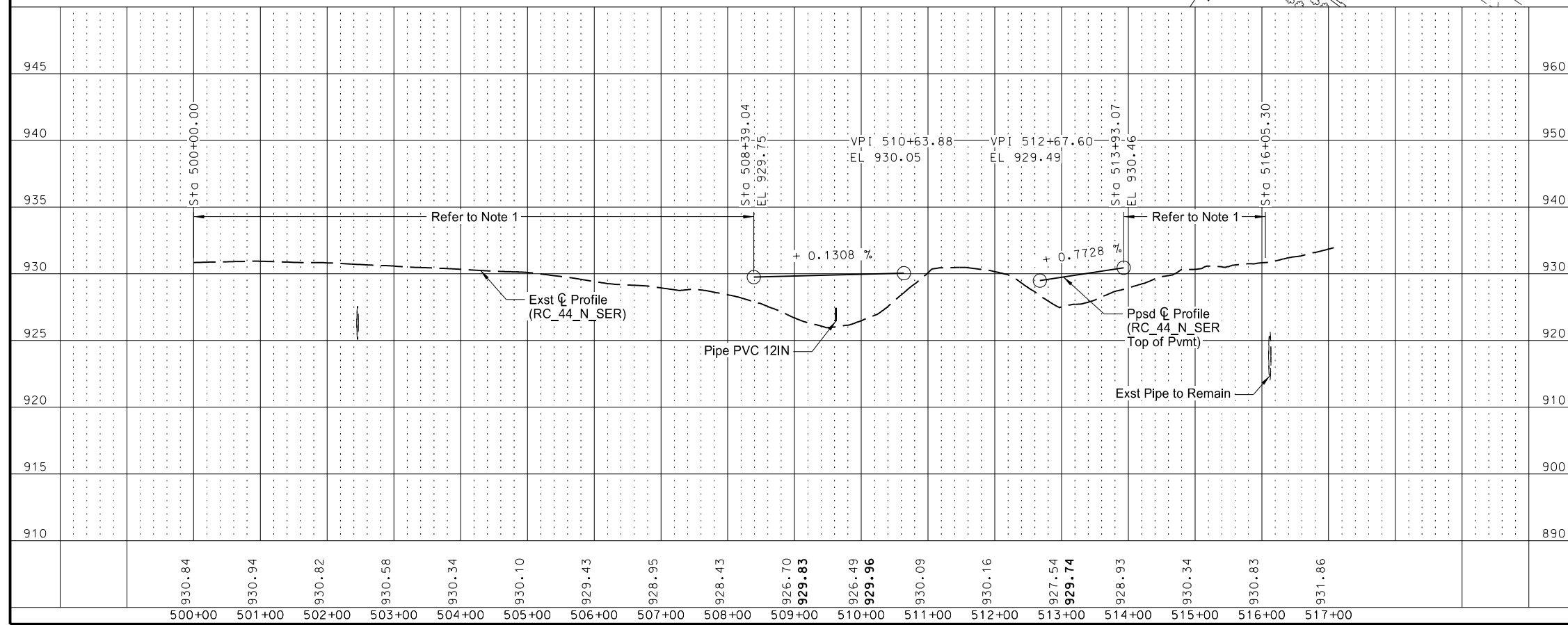
SPEC	CODE	BID ITEM	QTY	UNIT
714	7030	PIPE PVC 12IN		
		Sta 510+79 ~ 30.3' Lt to Sta 511+19 ~ 42.8' Lt	43	LF
714	9640	RELAY PIPE-ALL TYPES & SIZES		
		Sta 507+49 ~ 28.4' Rt to Sta 510+79 ~ 30.3' Lt	334	LF



Notes:
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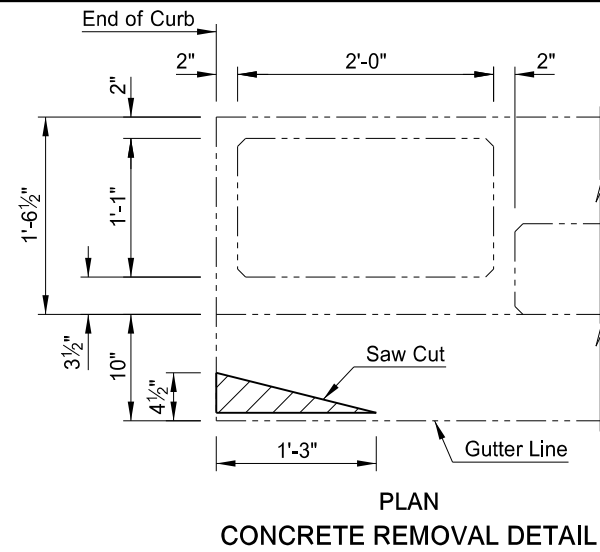


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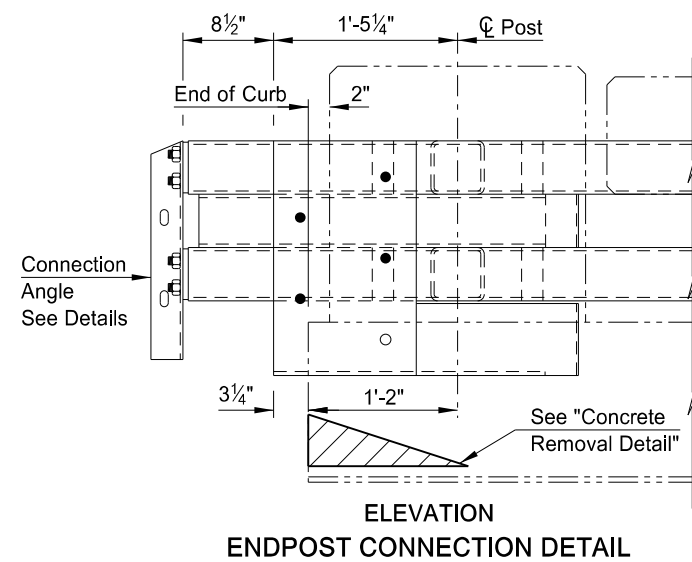


I-29 - N of Galchutt Exit to Christine Exit
Plan & Profile
Christine Interchange Southeast Ramp Connection
Sta 500+00 to 516+05 (RC_44_N_SER)

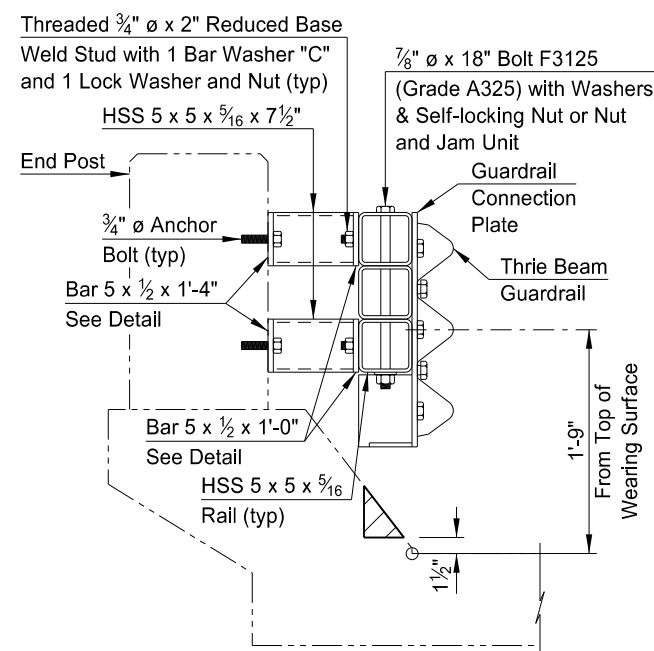
Revised 9/21/2017	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	IM-8-029(170)033	170	23A



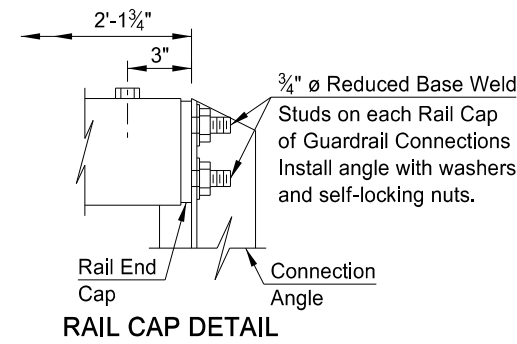
PLAN
CONCRETE REMOVAL DETAIL



ELEVATION
ENDPPOST CONNECTION DETAIL



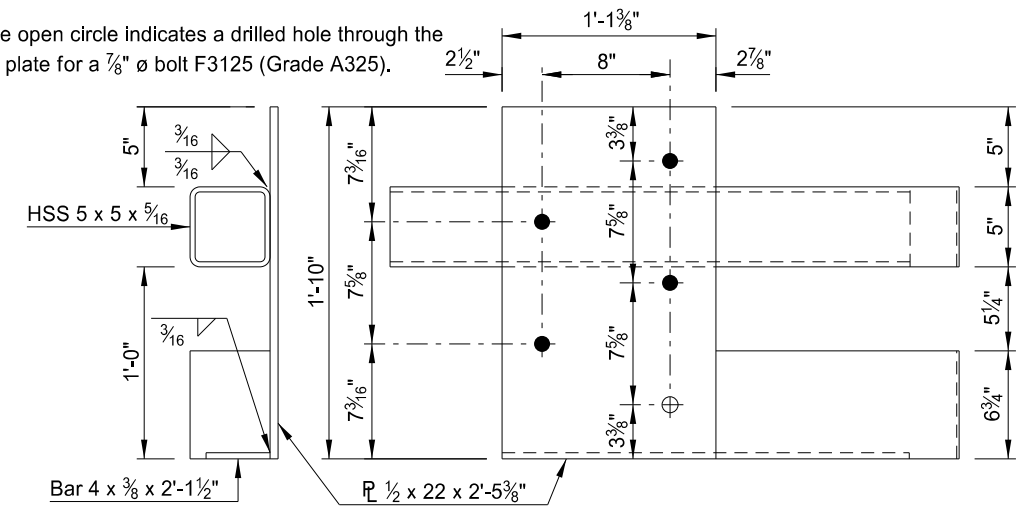
CONNECTION DETAIL



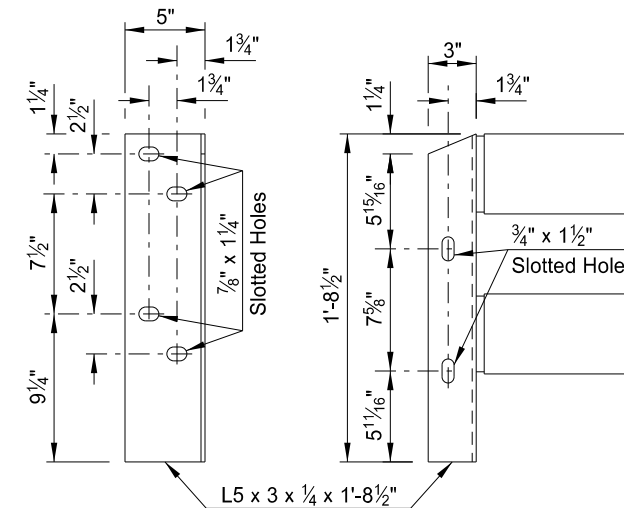
RAIL CAP DETAIL

The filled circles indicate drilled and tapped holes for 7/8" ø bolts F3125 (Grade A325). See Detail "B."

The open circle indicates a drilled hole through the 1/2" plate for a 7/8" ø bolt F3125 (Grade A325).



GUARDRAIL CONNECTION PLATE DETAILS



CONNECTION ANGLE DETAILS

NOTES:

Work at this site consists of installing guardrail connection plates at the exit end of the bridge. Include the connection plate, connection angle, welded studs, concrete removal and labor required to install the connections plates in the bid item "Connection Plate Modification."

Provide bolts and anchor bolts that meet the requirements of ASTM F3125 Grade A325 or ASTM A449. Provide reduced base weld studs that meet the requirements of ASTM A108.

BRIDGE BID ITEMS

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
624	3005	CONNECTION PLATE MODIFICATION	EA	2

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NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

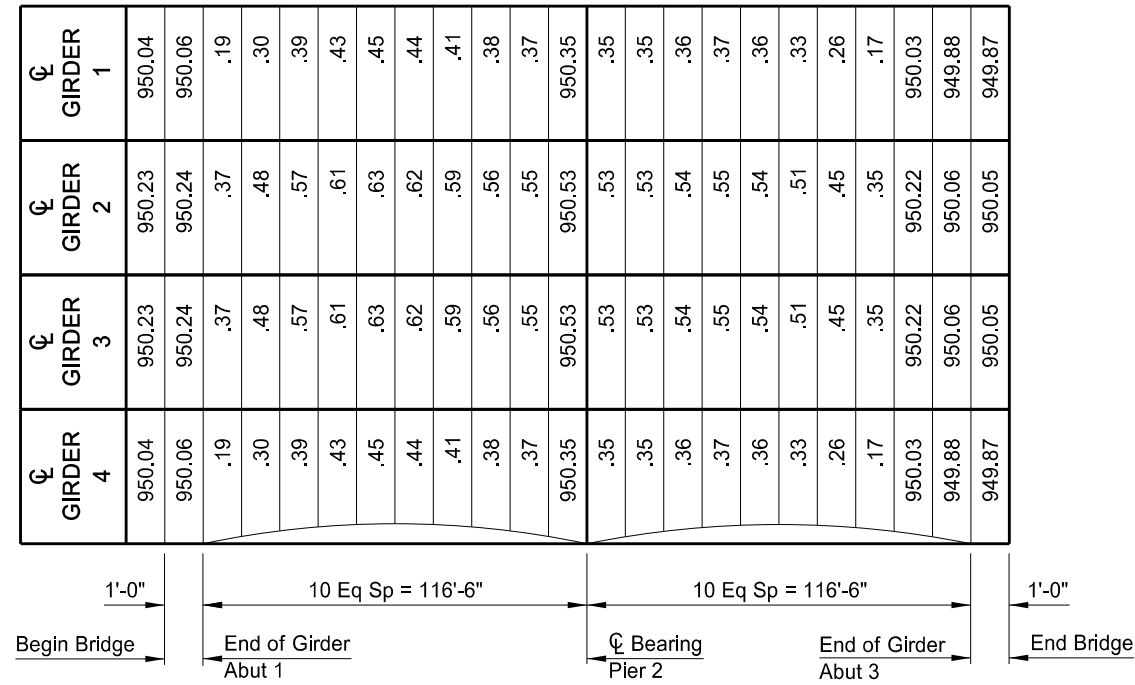
WILD RICE RIVER
BRIDGE LAYOUT

PROJECT: IM-8-029(170)033

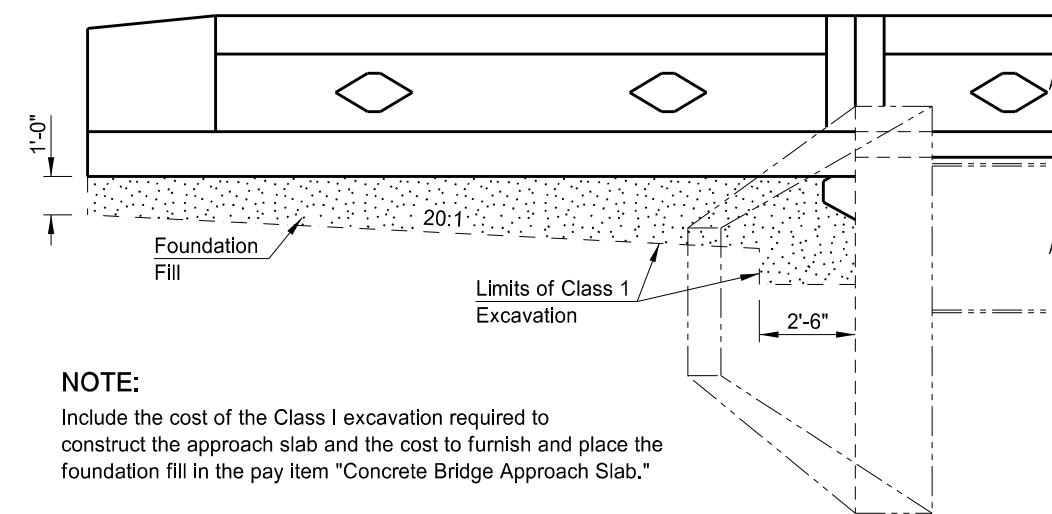
RICHLAND COUNTY

09/22/17 Jon Ketterling
DATE BRIDGE ENGINEER

Revised 9/21/2017	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	IM-8-029(170)033	170	27

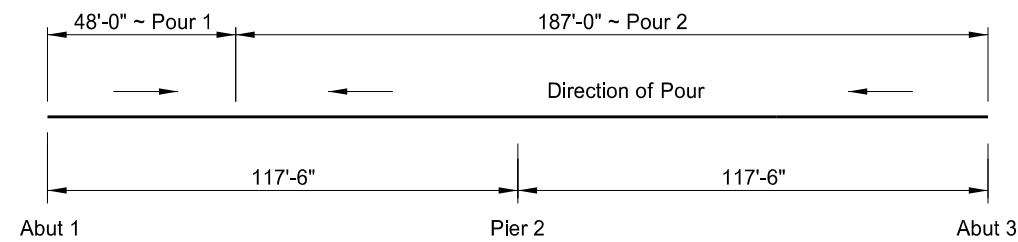


Girder 1 is the north girder.
SCREED ELEVATIONS



NOTE:
Include the cost of the Class 1 excavation required to construct the approach slab and the cost to furnish and place the foundation fill in the pay item "Concrete Bridge Approach Slab."

DETAIL AT ABUTMENT



SLAB POURING SEQUENCE DIAGRAM

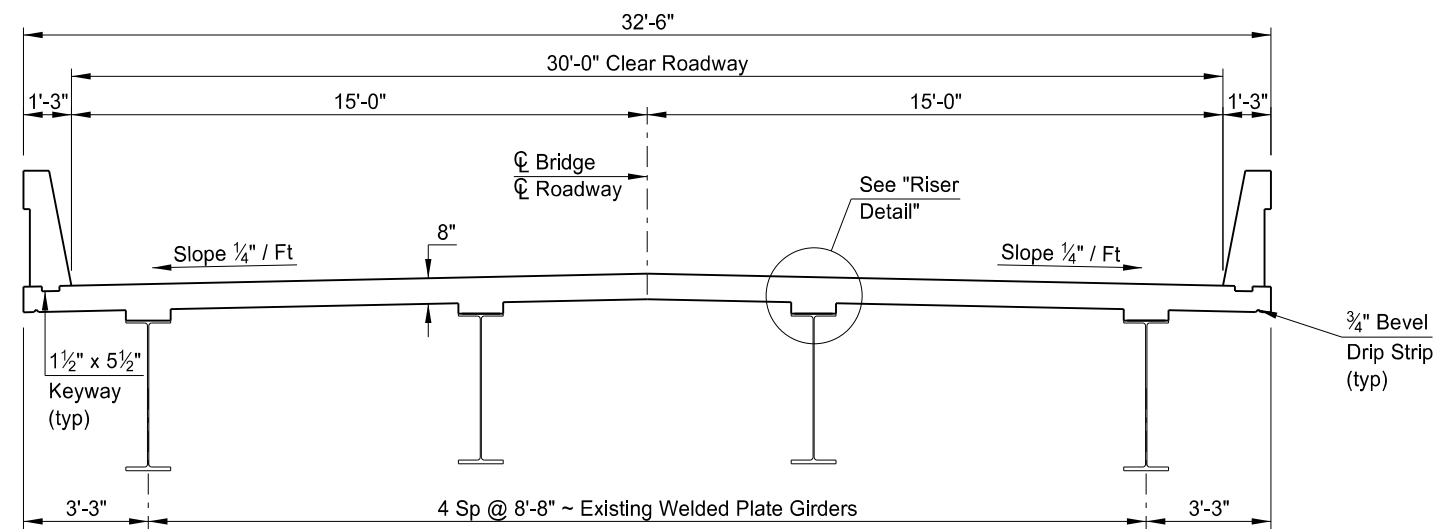
BRIDGE BID ITEMS

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
202	0111	REMOVAL OF CONCRETE	L SUM	1
602	0130	CLASS AAE-3 CONCRETE	CY	269.6
602	1133	CONCRETE BRIDGE APPROACH SLAB	SY	144.4
602	1250	PENETRATING WATER REPELLENT TREATMENT	SY	783
612	0115	REINFORCING STEEL-GRADE 60	LBS	1,204
612	0116	REINFORCING STEEL-GRADE 60-EPOXY COATED	LBS	68,747

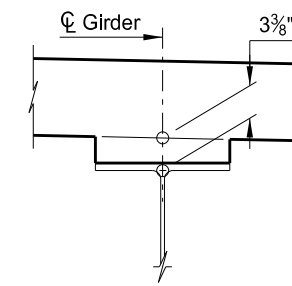
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CHRISTINE INTERCHANGE
DEAD LOAD DEFLECTIONS, DETAIL AT ABUTMENT & BID ITEM QUANTITIES

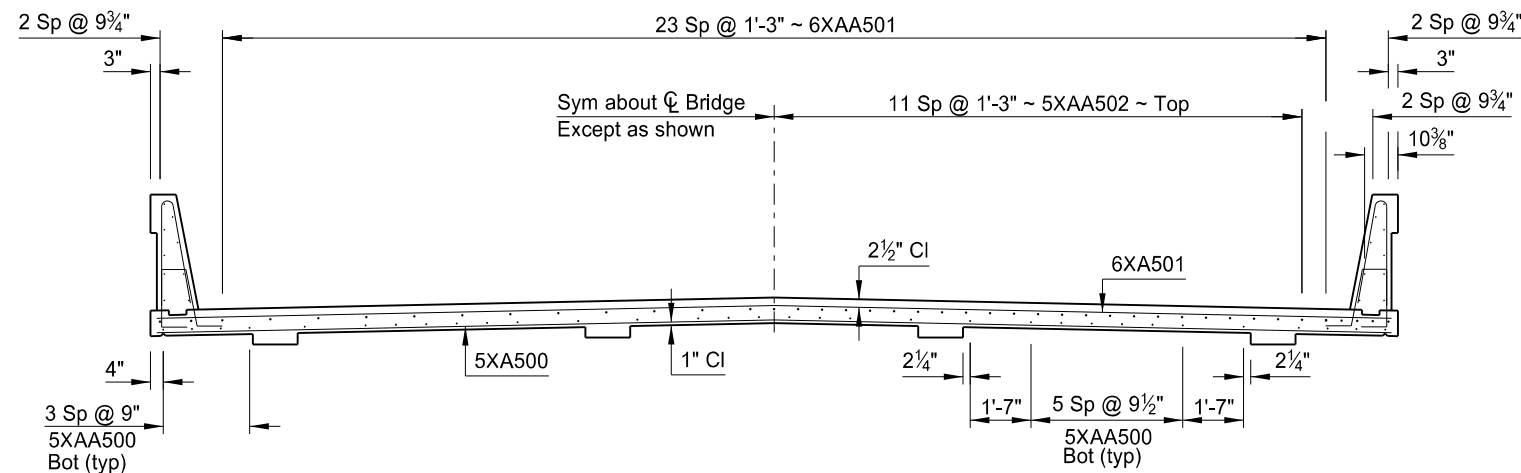
Revised 9/21/2017	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	IM-8-029(170)033	170	31



(SHOWING DIMENSIONS)
SLAB SECTION



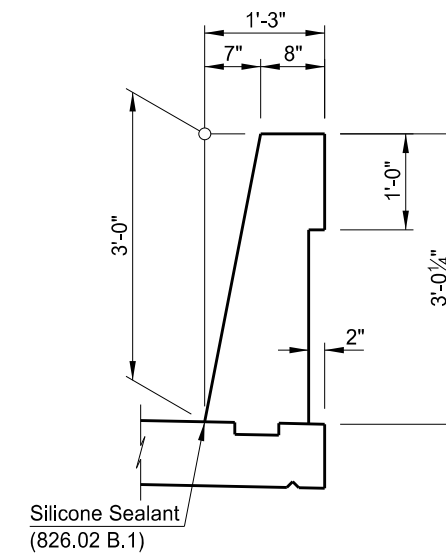
RISER DETAIL



(SHOWING REINFORCING BETWEEN SUPPORTS)

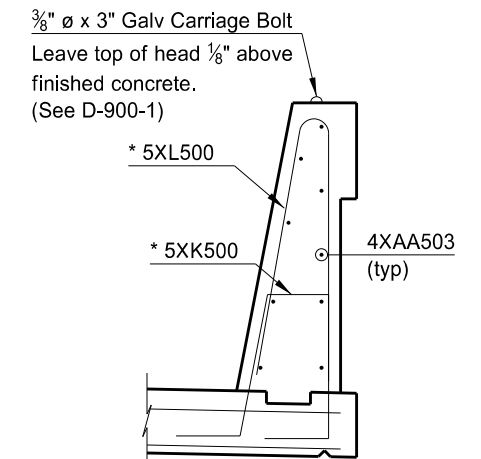
(SHOWING REINFORCING OVER PIERS)

SLAB SECTION



SHOWING DIMENSIONS

BARRIER DETAIL



* Provide a 1 1/2" clearance to the barrier reinforcing.

SHOWING REINFORCING

NOTE:

Include the connection plates and pipes in the pay item "Class AAE-3 Concrete."

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QUANTITIES	
CLASS AAE-3 CONCRETE	269.6 CY
REINFORCING STEEL	1,204 LBS
REINFORCING STEEL (EPOXY)	68,747 LBS

CHRISTINE INTERCHANGE

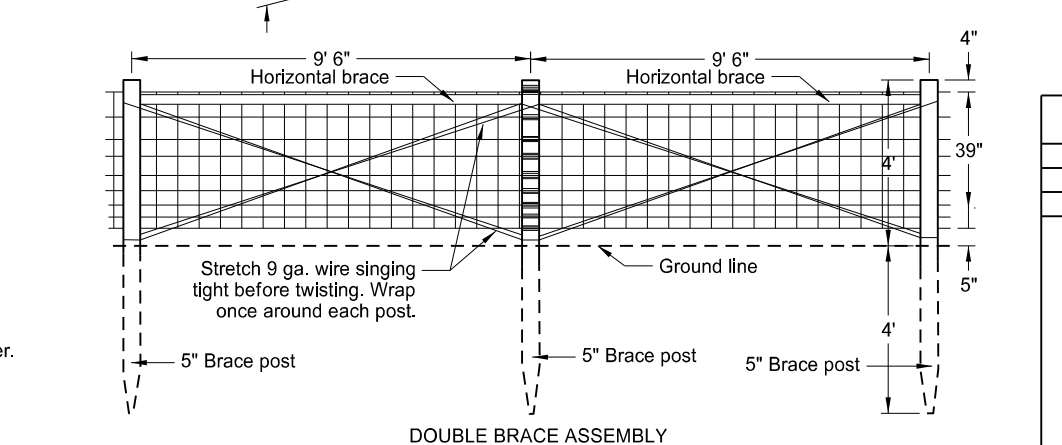
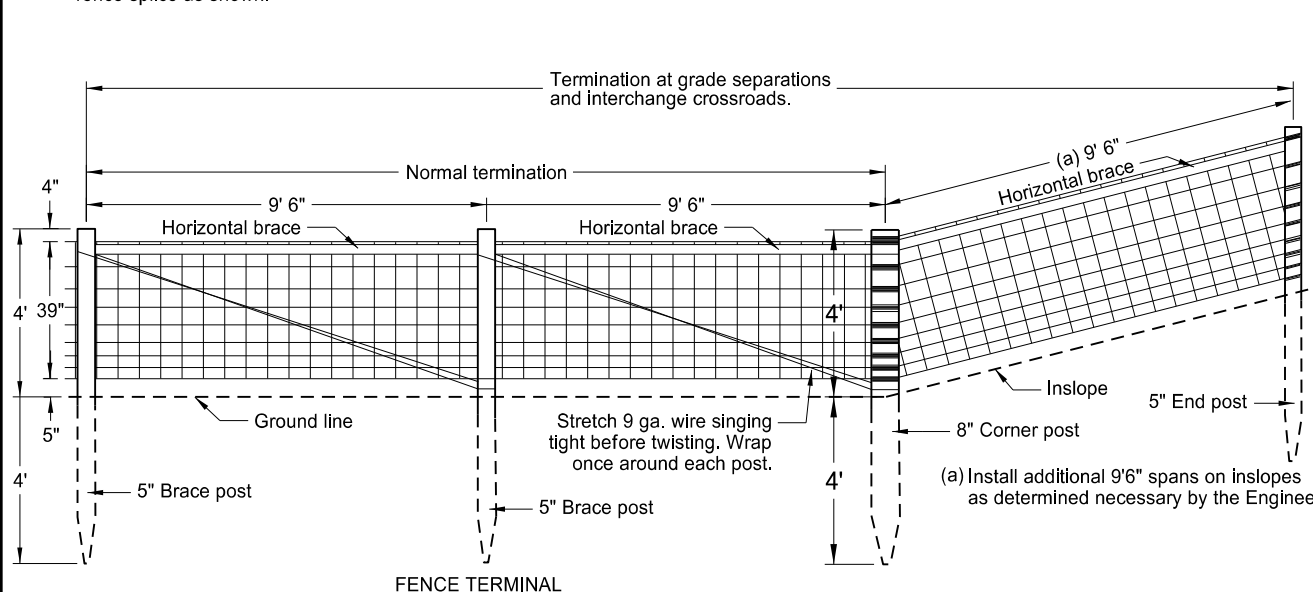
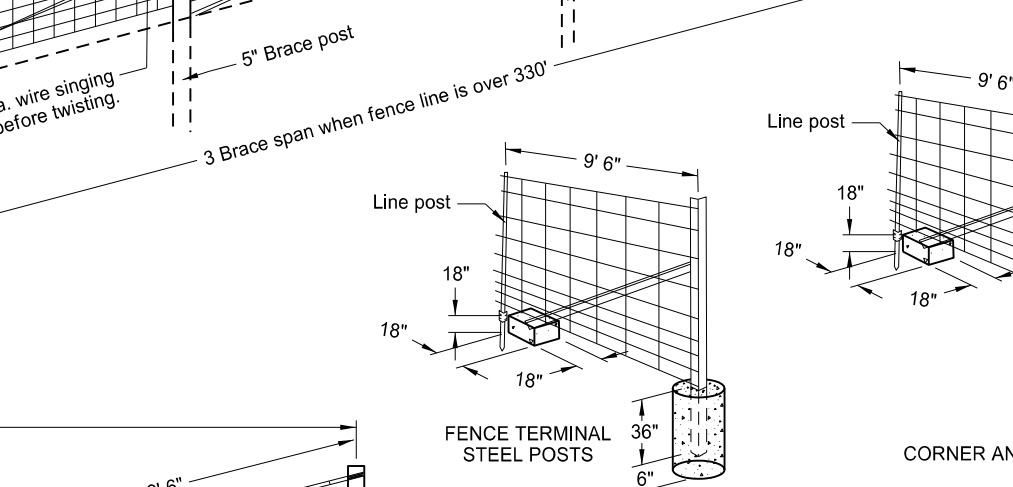
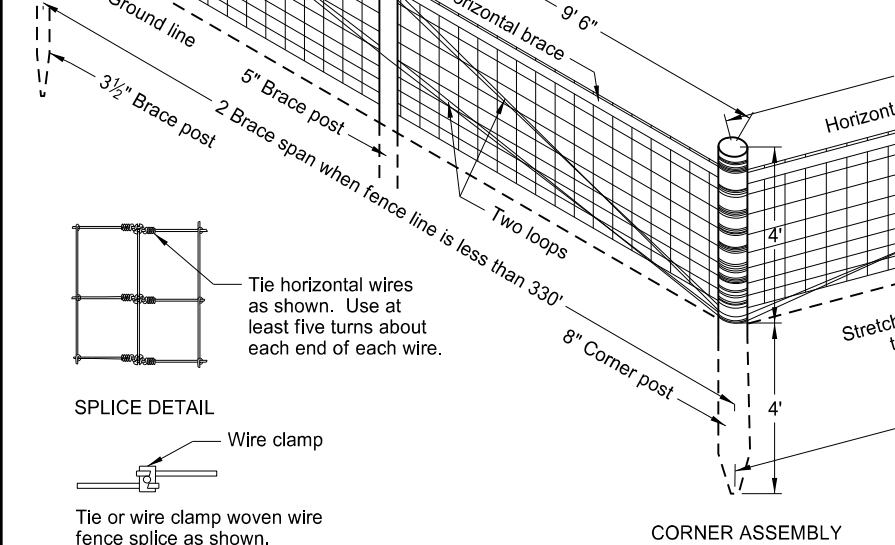
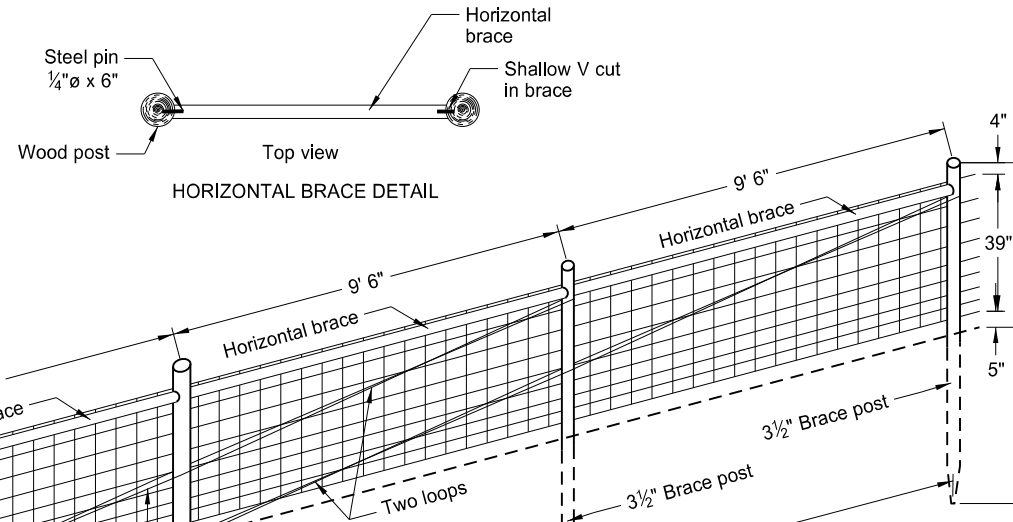
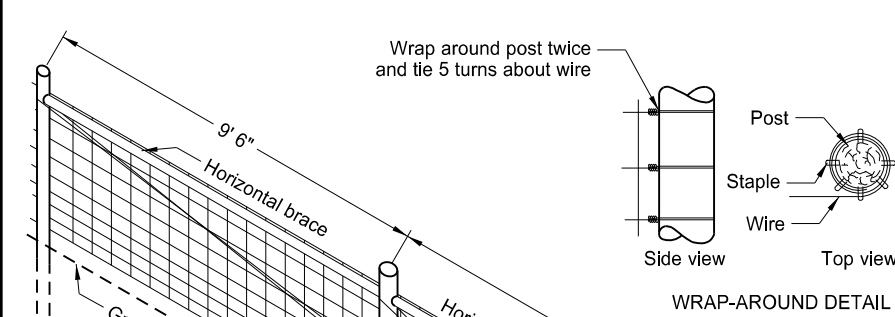
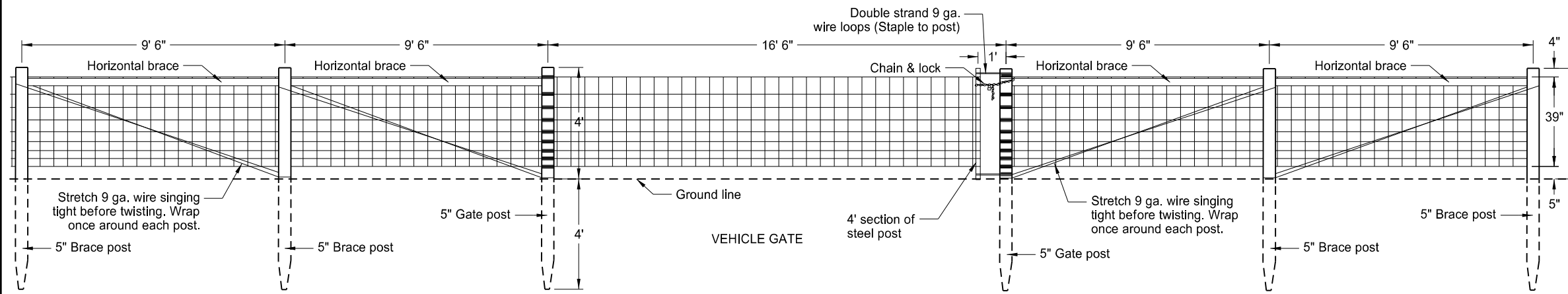
SLAB SECTION

STANDARD WOVEN WIRE FENCE

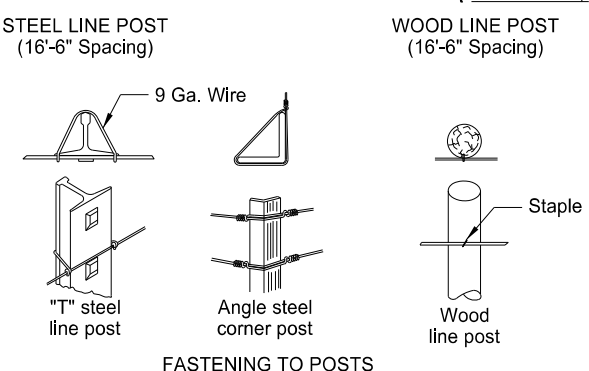
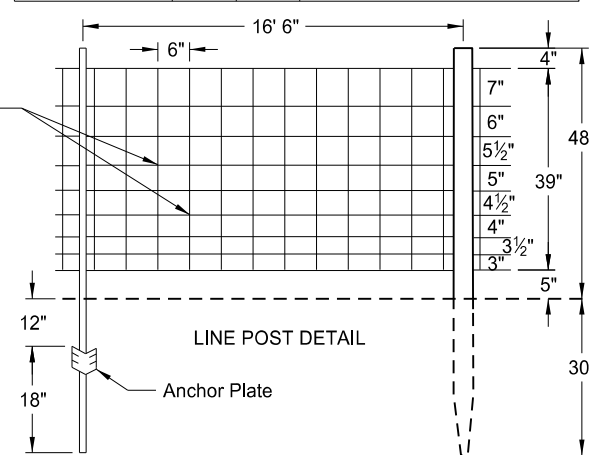
D-752-3

NOTES

1. No deduction in measured pay length of woven wire fence for gates, corner assemblies, double brace assemblies or fence terminals.
2. Install double Brace Assembly at locations shown on the plans or established by the Engineer. Space adjacent fence terminals, corner assemblies or double brace assemblies a maximum of 1320 feet.
3. Staple the top wire of woven wire fence separately. Staple intermediate wires a maximum spacing of 10" apart. Staple bottom wire.
4. If in the opinion of the Engineer the change in grade is so sharp that woven wire will not conform to the grade, install a double brace.
5. Determine post type used, either wood or steel, unless otherwise specified in the plans.



USE OF POST	Treated wood		Steel		
	Post dia.	Post length	Post length	Post wt. Lbs/Ft	Anchor wt. Lbs
Line post	3 1/2"	6'-6"	6'-6"	1.33	0.67
Corner post	8"	8'	7'	4.10	(Conc.)
End post	5"	8'			
Brace post	5" / 3 1/2"	8'	7'	3.19	(Conc.)
Gate post	5"	8'			
Horizontal brace	3 1/2"	Var.	As approved by the Engineer		



NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
10-02-12	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice.

This document was originally issued and sealed by Roger Weigel, Registration Number PE-2930, on 10-17-2017 and the original document is stored at the North Dakota Department of Transportation